ATMOSPHERIC-ELECTRIC RESULTS, WATHEROO, 1924-1934

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ATMOSPHERIC-ELECTRIC RESULTS FROM WATHEROO OBSERVATORY, WESTERN AUSTRALIA, 1924-1934

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PREFACE

The study of the electrical field of the Earth and its surrounding atmosphere has produced problems which have challenged geophysicists ever since the experiments of Franklin in 1746. The origin of the Earth's electric charge and the mechanism by which this charge is maintained in spite of a positive air-earth current are questions which have not, so far, been adequately answered. During the first years of the present century, time variations in the electrical air potential and positive and negative air conductivities were studied at only a small number of stations, chiefly in Europe and North America, and very few data were available as to the world pattern of these variations, especially over land areas. The atmospheric-electric observations made on the cruises of the Galilee and, later, on the earlier cruises of the Carnegie indicated the importance of continuous records from land stations at strategic points.

Accordingly, in the search by the Department of Terrestrial Magnetism for an appropriate site for a magnetic observatory in the Southern Hemisphere, consideration was given to the suitability of the selected area for a regular program of atmospheric-electric observations and recordings. The principal requirements for this work were (1) a flat area, free from large trees, (2) a minimum distance of 50 miles from the ocean so that the observations should be representative of land conditions, and (3) a location sufficiently remote from such industrial activity as would be likely to cause pollution of the air. With the establishment of the magnetic observatory at Watheroo, Western Australia, all these conditions were fulfilled, although some air pollution occurred at times during the dry summer months due to smoke from bush fires.

After the magnetic program of the observatory was successfully launched at the beginning of 1919, steps were taken for the housing and installation of a potential gradient recorder, as well as apparatus for the simultaneous recording of positive and negative air conductivities. The construction of a hollow-walled concrete building, protected from the rays of the Sun by a louvered outer wall, was commenced at Watheroo late in 1921, and recording began the following year.

The important bearing of the presence of condensation nuclei in the atmosphere on the variations in the atmospheric-electric elements was quickly recognized, and observations for the evaluation of this factor were regularly made with an Aitken nuclei-counter. Control observations of the meteorological elements, including a daily journal of general weather conditions, also formed part of the regular observatory program.

The present volume contains the atmospheric electric data obtained at the Watheroo Observatory during the period 1924 to 1934, tabulated in hourly values on monthly tabulations. Control meteorological observations and nuclei-count data are also included. The results obtained are briefly discussed, and a series of special reports on problems arising from a consideration of the data will be found in the latter pages of the text.

The names of the observing staff who were responsible for the operation of the atmospheric-electric equipment and the preliminary scaling of the records are presented in Table 1 in the last section of this volume. Reduction and discussion of the data were carried out in Washington by G. R. Wait and O. W. Torreson, the latter being also responsible for the final preparation of the volume.

On July 1, 1947, the Watheroo Magnetic Observatory was transferred by gift of the Department of Terrestrial Magnetism to the Commonwealth of Australia. The observatory is continuing in operation under the Department of Supply and Shipping, Bureau of Mineral Resources, Geology, and Geophysics.

M. A. Tuve, Director
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ATMOSPHERIC-ELECTRIC RESULTS FROM WATHEROO OBSERVATORY, WESTERN AUSTRALIA, 1924-1934

INTRODUCTION

Since January, 1924, measurements of potential gradient and positive and negative conductivities of the atmosphere have been obtained with continuously operated recording instruments at the Watheroo Magnetic Observatory of the Department of Terrestrial Magnetism, Carnegie Institution of Washington. This volume presents and discusses results of these measurements through the year 1934.

In addition to atmospheric-electric research, the program included measurements in terrestrial magnetism, earth currents, solar activity, and atmospheric noise. To carry forward the extensive scientific program, the regular observatory staff, including the observer-in-charge and two assistants, was supplemented by students from the University of Western Australia during vacation periods. The regular and temporary members of the staff during the period 1924 to 1934 are listed in Table 1 in the last section of this volume.

Description of Site

The Watheroo Magnetic Observatory occupies a site approximately one-half mile square on an almost flat sand-plain in Western Australia, 55 miles inland from the Indian Ocean. The station is at an altitude of 244 meters, in latitude 30° 19′ south, and longitude 115° 52′ east of Greenwich.

The surrounding region is sparsely inhabited; the nearest habitation is two miles to the eastward, and the next nearest is about seven miles to the northeast. The village of Watheroo, 12 miles to the east, is a community of only a few families. The nearest town is 40 miles to the southeast, and the nearest city, Perth, the capital of Western Australia, is 120 miles to the south.

There are eight major buildings and several lesser ones on the site; none of these is over 20 feet high. A detailed description of the observatory site and buildings is given in "Researches of the Department of Terrestrial Magnetism," Volume VII-A [1].

The building used for atmospheric-electric observations is 350 feet from the nearest of the other buildings. Although a few trees have been planted or permitted to grow on the site, the nearest of these are 15 to 20 feet high and about 200 feet distant from the atmospheric-electric building. All the trees of the station are less than 30 feet high.

The atmospheric-electric building is a flat-roofed concrete structure ten feet (three meters) high, with double walls, floor, and ceiling. The walls are protected from the Sun's rays by a wooden louvered enclosure, and the floor is raised above ground level so that air may circulate beneath it. The diurnal variation in temperature within the building is small, and investigation has shown that the resulting temperature effects on the instruments may be neglected. The atmospheric-electric building is shown in Figure 1.

Snow never falls at Watheroo, and the rainfall, which averaged 17.3 inches per year in the 11 years under discussion, varies so as to divide the year into a wet season (May to October) and a dry season (November to April), as shown in Table 2. In the four rainest months, May to August, more than 60 per cent of the rainfall occurs, averaging between two and three inches per month. In the four driest months, November to February, the average monthly rainfall is between two-tenths and three-tenths of an inch per month.

In this relatively dry climate the vegetation is sparse, consisting chiefly of bush growth up to five or six feet high and scattered small trees. Farms lie to the north, east, and south, but to the west, between the observatory and the ocean, the land is undeveloped.

In the dry season fires in the "bush" are frequent and much smoke comes to the observatory from this source, generally arriving in the middle or late afternoon and then being dissipated the following morning. The very conspicuous effect of the smoke on the atmospheric-electric elements will be discussed in a later part of the volume.

ATMOSPHERIC-ELECTRIC INSTRUMENTS AND OBSERVATIONS

Potential Gradient Apparatus

For continuous recording of potential gradient, an apparatus was employed which consisted of a radioactive "collector" connected to a measuring system, the latter being installed in the atmospheric-electric building near the east wall. An ionium-coated disc, about two cm in diameter, was used as the collector and was mounted at the outer end of a brass rod projecting through the wall, the rod itself being supported in amber insulators held in brass tubes. The inner end of the rod was connected to the measuring system which, from January, 1924, to September 18, 1927, was a Günther and Tegetmeyer recorder consisting of a bifilar electrometer of Wulf's design, a projection microscope, and an attached recording box with driving clock. With a recording lamp behind a window at the back of the electrometer, the movement of each electrometer fiber was photographically recorded as a white trace against a black background. Photographic paper for this apparatus was supplied in rolls of 150 cm length and 6.7 cm width. Since the record for each day was approximately 15 cm long, one roll was sufficient for several days.

On September 18, 1927, the Günther and Tegetmeyer recorder was replaced by a Dolezalek Quadrant Electrometer and separate recording box, the latter being located approximately one meter from the electrometer. A recording lamp mounted at the side of the recording box

provided a beam of light which was reflected from the mirror of the electrometer to the photographic paper. For this apparatus the photographic paper was approximately 52 cm long and 20 cm wide and was changed daily.

Figure 2 shows schematically the double concrete walls and the outer louvered wall of the atmospheric-electric building supporting the large brass tube through the center of which run the collector rod and the wire connecting the rod to the quadrant electrometer. At the outer end of this tube is attached a hooded cylinder of larger diameter which serves to protect the supporting insulator of the collector rod from rain, dust, and other contamination. At the inner end, within the building, a dustproof aluminum box houses the quadrant electrometer. In the diagram, four cups are shown on the brass tubes, two on the hooded tube and two on the tube supported in the walls. In these cups, made of glass, phosphoric pentoxide was placed (replenished at about weekly intervals) to assist in keeping the insulating surfaces as dry as possible.

The quadrant electrometer was equipped with special amber insulators, one supporting the needle-suspension and others supporting the quadrants. During use, a constant potential-difference of 12 volts was applied from a battery of silver chloride cells across the two pairs of quadrants, the battery having its midpoint connected to the case of the electrometer and to earth. Potential applied to the needle through the collecting system then caused deflection of the needle, and the deflection was recorded by means of a spot of light, reflected from a mirror attached to the electrometer suspension to a sheet of photographic paper about one meter distant from the electrometer. The photographic paper, 20 cm wide and 52 cm long, was mounted on a cylinder which was rotated once every 24 hours by a clock mechanism.

Figure 3 is a view of the installation of potential gradient apparatus and shows the electrometer and its housing at the extreme right. At the left is the recorder box which houses the rotating cylinder holding the photographic paper. The lamp attached to the recorder box provides the recording spot. The relays seen on the wall of the room are actuated by a program machine. One relay functions every hour at the hour to earth the electrometer needle for a period of one minute to provide a base line from which to measure electrometer deflections. Another functions to provide a ten-minute test of insulation every four hours. These two relays operate contact-fingers, shown in Figure 2, one of which is located above the electrometer and the other above the insulator supporting the collector rod in the hooded cylinder. The third relay on the wall operates the lamp shown in front of the electrometer housing, turning it on for a few seconds exactly on the hour to make a time-mark on the photographic paper. A fourth relay, shown below the others in Figure 3, may be put into service as required to operate the recording lamp for a few seconds at regular intervals (every minute or two) to make the photographic record a dotted rather than a continuous line. This is used during "standardizing observations" when eye readings made at a station located nearby on an open, level area are to be compared with simultaneous readings from the recording apparatus in order to get the factor required to reduce observatory values to values in volts per meter representative of an open area undistorted by the building.

Reduction factor observations.--During the years 1924 to 1934, the collector rod projected 1.00 meters from the wall of the atmospheric-electric building at a height of 2.45 meters above ground level. To reduce or "standardize" the potentials measured at this point in the air to volts per meter representative of an open, level area, monthly determinations of reduction factor were made. Several sites were used for the standardizing station during the 11-year period, all being several hundred feet from the atmospheric-electric building and in a westerly direction. The reduction factor adopted for the period January, 1924, to March, 1925, was 1.31. In April, 1925, a radio mast and antenna were removed from the vicinity of the building, and the factor was thereby reduced to 1.16. Between 1925 and 1934, the factor decreased slowly from 1.16 to 1.10. Table 3 in the last section of this volume is a summary of the reduction factor for the 11 years.

Calibrations.--Calibrations of the potential-gradient recording apparatus were made weekly throughout the years 1924 to 1934. Scale values for the Gunther and Tegetmeyer recorder, which was used to September 18, 1927, were very consistent throughout, having values between 17 and 18 volts per mm of deflection on the photographic paper. For the quadrant electrometer, the scale values in the months of September and October, 1927, were 3.5 volts per mm of deflection, and thereafter, until the end of 1934, the values ranged between 3.8 and 4.4 volts per mm, except for brief periods in February and October, 1928, when instrumental difficulties occurred and scale values of approximately 7.0 volts per mm existed.

Tables of data.--Monthly tabulations of potential gradient, expressed in volts per meter, are given for the years 1924 to 1934 in the last section of this volume.

Conductivity Apparatus

The instruments for recording the conductivity of the air consisted of two similar units of modified Gerdien apparatus [2], one for each sign of conductivity. A view of the apparatus is given in Figure 4. In this figure the apparatus is shown as it was set up for testing prior to installation at Watheroo; the rough wooden structure simulates one end of the atmospheric-electric building, through the roof of which the two vertical cone-capped tubes protruded in the permanent installation. Each vertical tube, 16 cm in diameter for the upper half of its length, has installed concentrically a short inner cylinder 1.4 cm in diameter and 25 cm long. The latter is mounted at a height approximately midway between the floor and ceiling. The outer tube extends through the roof and down through the floor of the building so that air can be drawn in from above the building and exhausted below the raised floor. The apparatus is used in a darkened room; a sheet of photographic paper is exposed, upon which are recorded the movements or deflections of the two spots of light proceeding from the quadrant electrometers which are used as the measuring instruments. The photographic paper is mounted on a rotating drum installed on a concrete pier midway between the two units of the apparatus. A clock mechanism rotates the drum once in 24 hours (the rotation may be changed by a simple gearshift to once in three hours), so that each sheet represents one complete day's record of both positive and negative conductivities.

A schematic diagram of a single unit is shown in Figure 5. Air is drawn through the outer cylinder, designated the air-flow tube, by a motor-driven fan, F, placed in the tube at the floor level of the building. The inner or central cylinder, C, insulated from the air-flow tube by an insulator of amber, is connected to one pair of quadrants of the electrometer; the other pair of quadrants is connected to the case of the electrometer which is insulated and maintained at a constant potential of 100 volts or less by battery O. Across the two pairs of quadrants is permanently connected a high-resistance radioactive cell, R (10^{12} ohms), of the type modified by W. F. G. Swann and S. J. Mauchly [3]. With proper potential applied to the electrometer needle from battery N (seldom more than 100 volts) and with the arrangements as outlined, when air is drawn with sufficient velocity through the air-flow tube, the electrometer experiences a continued deflection, the magnitude of which is determined by the conductivity of the air, the potential applied to the central cylinder, C, the resistance of the radioactive cell, and the sensitivity of the electrometer. The apparatus measures either positive or negative conductivity, according to the sign of the potential applied to the central cylinder. To a guard-ring, G, is applied nearly the same potential as is applied to the central cylinder, any leak across the amber supporting the central cylinder thus being minimized.

In order to determine the base line from which the electrometer deflection produced by the conductivity shall be measured, or, in other words, to determine the deflection corresponding to zero conductivity, a set of concentric cylinders is mounted in the upper portion of the air-flow tube. This set of cylinders is arranged and so connected as to form a cylindrical condenser, A, of electrical capacity much greater than that of the condenser-unit formed by the central cylinder and air-flow tube. Condenser A is termed the auxiliary condenser. Once every hour a potential of about 300 volts is applied across it, for a period of three to five minutes, from a battery, H, through the operation of the relay T. At such times all the ions of mobility greater than 0.1 cm per sec per volt per cm are drawn out of the air stream, so that no ions arrive at the central cylinder from the outside, and the electrometer deflection falls to a position representing zero conductivity of the outside air.

This zero will not coincide with that obtained during calibration, for the central cylinder will still collect those ions that are produced by radioactive material deposited on the surfaces of the air-flow tube and central cylinder. Since, however, ions from the deposited radioactive material are produced during recording as well as during the hourly zero determination, the latter represents the zero from which the deflections representing the conductivity of the air should be measured.

According to the theory of Gerdien, the ions which are drawn to the central cylinder when the apparatus is operating come from a region bounded by a cylindrical surface. The cross-sectional area of this region is inversely proportional to the velocity, U, of the air and is directly proportional to the potential-difference, V, between the outer and central cylinders, to the measured capacity, C, of that part of the central cylinder system which is exposed to the air current, and to the mobility, v, of the ions in question. So long as the calculated radius of this cross-sectional area is less than the radius of the outer cylinder of the apparatus, the apparatus measures the true conductivity.

To calculate the radius, use is made of the formula

$$r^2 = 4CVv/U \qquad (1)$$

and, for the apparatus here described, C is about 6 cm, V is usually less than 100 volts, and U is not less than 200 cm per sec. As v is known to be close to 1.5 cm per sec per volt per cm at sea level, r is found to be less than 5 cm, whereas the radius of the air-flow tube is 8 cm.

Swann [4] has shown that the measured and not the computed value of C, the capacity of that part of the central cylinder system including the supporting rod which is exposed to the air current must be used. This applies not only in the case of the calculations made above, but also for the computations of the true conductivity from the formula developed by Riecke [5].

According to Riecke, a charged sphere placed in a stream of air of sufficiently high velocity so that effects of diffusion, re-formation, and recombination of ions may be neglected loses its charge at a rate given by

$$-dQ/dt = 4\pi Q\lambda \qquad (2)$$

where Q is the charge of the sphere and λ is the unipolar conductivity. Swann [4] showed that this formula applies not only to a charged sphere but also to a charged body of any shape, and consequently it applies to the central cylinder of a Gerdien conductivity apparatus.

For the conductivity apparatus, Q = CV, C and V defined as previously. Formula (2) may then be rewritten as

$$-dQ/dt = 4\pi CV\lambda \qquad (3)$$

the quantity dQ/dt being the current or the rate of passage of electricity through the high-resistance radioactive cell and readily obtained by means of calibration equipment attached to the conductivity apparatus.

As shown in the schematic diagram in Figure 5, the inner member of a small cylindrical condenser, B, is connected to that part of the circuit which includes the central cylinder, the upper electrode of the radioactive cell, and the insulated pair of electrometer quadrants. During regular recording, the outer member of condenser B is connected to the remaining pair of quadrants of the electrometer, to the base of the radioactive cell, and to the operating battery, O. For calibration, battery O is disconnected, the base of the radioactive cell and the associated pair of quadrants are earthed, and the outer member of condenser B is connected to a rolling contact which runs on a wire spirally wound on a drum, D, that is rotated when in use [6]. The spiral-wound wire is connected across a calibrating battery, one side of which is earthed.

With a constant potential-difference, V', across the ends of the spiral wire and the latter revolved so that the rolling contact moves along it, the electrometer will deflect because of current flow through the radioactive cell; eventually, if the rotation of the drum is uniform, a steady deflection will be attained which is determined by the electrometer sensitivity, the resistance of the radioactive cell, the rate of variation in potential of the moving contact, and a quantity, k, representing the capacity of the condenser, B. If dV'/dt is the rate of variation in potential of the moving contact, then the current through the radioactive cell is given by kdV'/dt.

The current during measurement of conductivity is $4\pi CV\lambda$, and when the two currents are equal

$$-kdV'/dt = 4\pi CV\lambda \qquad (4)$$

from which equation a value of conductivity corresponding to a particular current is readily obtained. A value for the current, as given by the calibration apparatus, may be computed from the constants of the apparatus. The capacity, k, is about 16 cm; there are 70 turns of wire on the calibration drum; the speed of rotation of the drum is about 12 r.p.m. and is kept as precisely as possible at the same value on all occasions by adjustment of the speed of the driving motor to give a constant tachometer reading. The value of V′ may be anything up to 30 volts; usually it is applied in steps of three or four volts so that six or seven calibration points are obtained at each calibration. If, for example, V′ is taken as ten volts, then the current kdV′/dt becomes 15.3×10^{-4} esu. For conductivity then, we have $\lambda = 15.3 \times 10^{-4}/4\pi CV$, where V must be in esu. Since C is 6 cm and if V, the voltage across the central cylinder and air-flow tube during regular conductivity measurements, is 20 volts, then λ becomes $15.3 \times 10^{-4}/5.03$ or 3.04×10^{-4} esu. For this value of conductivity, one can now find what the electrometer deflection will be for a given sensitivity of the electrometer and given resistance of the radioactive cell. If the cell resistance is 10^{12} ohms, or 1.1 esu, and the current is 15.3×10^{-4} esu, then the voltage drop across the cell will be 16.8×10^{-4} esu or about one-half volt. If the sensitivity of the electrometer, as measured on the photographic sheet at a distance of one meter from the electrometer, is 60 mm per volt, the deflection will be 30 mm. Other voltages across the drum give other values of current with other deflections from which a suitable calibration curve may be drawn.

From the foregoing it will be seen that the major items of equipment in the apparatus are (a) the air-flow tube, containing the auxiliary condenser and the air-flow fan; (b) the central cylinder; (c) the electrometer; (d) the radioactive cell; (e) the calibration apparatus, including calibrating condenser and revolving drum; and (f) batteries required to supply potentials to various parts of the apparatus.

Automatic devices to make time-marks on the photographic sheet and to apply potential to the auxiliary condenser once each hour so that a zero conductivity deflection may be recorded are operated by the program machine which was mentioned in connection with the potential-gradient recorder.

The high-resistance cell used with the conductivity apparatus is a modified form of the cell developed by Bronson [7]. A cylindrical chamber about 20 cm in diameter and 20 cm high is silver-coated inside. In a depression in the base of the cell is a circular area coated with thorium ionium nitrate salt, containing 8 to 10 per cent ionium, the salt being mixed with bakelite varnish and the mixture baked on, as is done in preparing radioactive collectors for potential-gradient work. The ionium surface is sealed over by a very thin disk of mica which in turn is covered by a disk of silver foil. Into the cell through the top project two concentric rods (set in an insulator of amber) terminating in small disks mounted with faces parallel to the base of the cell. These two electrodes, silver-coated like the chamber, may be independently adjusted for height with respect to the cell base. Alpha particles from the ionium make the air within the cell slightly conducting; by variation of the heights of the electrodes the resistance of the cell may be varied over a considerable range. The positions of the two upper electrodes may also be adjusted to obtain approximate linearity between calibration deflections on the photographic sheet and current through the cell. The adjustment of the radioactive cell is affected by variations in temperature and pressure. The pressure effect is small and can usually be neglected, but the temperature effect is sufficiently large so that the cell should be used in a temperature-controlled location whenever possible. At Watheroo, with the conductivity apparatus installed in a specially constructed building, the temperature effects were found to be so small that they could be neglected.

Calibrations.--Calibrations of the conductivity instruments were made weekly in the years 1924 to 1934. Scale values for both conductivity instruments were maintained throughout the 11-year period at between 10×10^{-6} and 15×10^{-6} esu per mm of deflection on the photographic record.

Tables of data.--Monthly tabulations of positive and negative conductivity, expressed in millionths of an electrostatic unit, are given in the last section devoted to tabulations of results.

METEOROLOGICAL OBSERVATIONS

Schedule of Observations

Notes regarding the weather were made daily, describing the kind and quantity of cloud at frequent intervals through the daylight hours, and record was kept of the occurrence of fog, mist, haze, dew, and frost, and of the smoke in the air. Periods of rainfall were carefully noted and described as gentle or heavy showers, continuous rains, thundershowers and thunderstorms, and the amount of rainfall was measured with a standard United States Weather Bureau rain gage. A barograph, thermograph, and hygrograph were installed in a standard shelter and were kept in continuous operation. Wind force and wind direction were recorded from January, 1925, with a Dyne's pressure-tube anemograph at a height of 40 feet above ground level.

Classification of Days

With records of the several meteorological elements and the accompanying daily notes on weather, it has been possible to classify each of the days in the 11-year period meteorologically, according to fair weather and bad weather, and to select from the fair-weather days the quiet, least-disturbed days.

From January 1, 1924, to December 31, 1934, comprising a period of 4018 days, simultaneous records in all three atmospheric-electric elements, potential gradient, positive conductivity, and negative conductivity, were obtained on 2341 days, an average of 18 days per month. Of the remaining days, some were lost through failure or maladjustment of one or another of the three instruments, but most were lost through bad weather.

With thunderclouds nearby, or during thunderstorms, the potential gradient became so great, or varied so much from positive to negative, as to be unrecordable with the sensitive apparatus used for that element.

After careful study of the records themselves and of the conditions of weather, nearly a thousand days were discarded from the complete days, in order to obtain least-disturbed, fair-weather days for the study of the electrical conditions prevailing in fair weather. Smoke in the air accounted for most of the days discarded, although dust storms during high winds, and mild bad weather disturbances caused some discarding of days.

Smoky days were found chiefly in the driest months of December to March, but in November and April also a few smoky days were usually found. In the final selection of least-disturbed days, from December to March there are only five to seven days per month, on the average, while in the remaining months there are 12 or 13 days.

Tables of Data

Monthly tabulations of meteorological records and notes are included among the tabulations of atmospheric-electric results in the last section of this volume.

NUCLEI APPARATUS AND OBSERVATIONS

It was apparent from the beginning of the conductivity registrations in 1922 that smoke in the air had a pronounced effect upon both positive and negative conductivities, greatly decreasing their value. In the summer of 1924, after the potential-gradient registrations were started, the potential gradient was also found to be affected, its value being greatly increased when smoke was present. Figure 6 is typical of the effect of smoke. Since the presence of smoke is accompanied by an increased concentration of condensation nuclei, steps were taken to obtain a quantitative measure of the effect of smoke on the various atmospheric-electric elements through systematic measurements of the number of condensation nuclei.

Through the kindness of officials of the Commonwealth Weather Bureau of Australia, arrangements were made in 1923 to borrow their Aitken Dust Counter, an instrument preferably called a nuclei counter.

Aitken Nuclei Counter

The Aitken instrument was devised for counting the number of particles in the atmosphere which act as centers or nuclei for condensation of moisture [8]. Aitken called the particles "dust" particles and his instrument the dust counter, but today the particles counted by his instrument preferably are called condensation nuclei and his small, portable counter, the Aitken pocket nuclei counter. Figure 7 contains a view of the Aitken pocket nuclei counter as well as drawings showing details. A shallow circular receiver, R, connects through a three-way cock, K, with a piston chamber, P, when the cock is set as shown. The cock, K, when turned 90°, connects the receiver to the outer air, while at the same time the piston chamber is, by a separate orifice, also connected to the outer air. The volume of the receiver is a few cubic centimeters, and the piston chamber is about one-third that of the receiver when the piston is down at full stroke. Hence the air in the receiver may be expanded about 30 per cent by a full piston stroke.

The air in the receiver is kept saturated by a moistened disc of blotting paper, mounted on a loose disc within the receiver. When the counter is shaken, the disc mixes the air. In the bottom of the receiver is a glass window divided into millimeter squares for a counting stage, and on the receiver cover is mounted an eyepiece, M. Light is directed into the receiver by an adjustable mirror mounted below the receiver on the piston tube and so designed as to give black background illumination. To move the piston, the operator uses the knurled collar which slides on the tube, G. When the piston is pulled down sharply, moisture in the receiver condenses on the nuclei present and the latter become readily visible through the lower power eyepiece as they fall on the counting stage. Investigation has shown that nuclei once deposited are normally not returned to the air and recounted.

On the side of the tube, G, are markings of 1/5, 1/10, 1/20, and 1/50 which are used when introducing different proportions of impure air into the counter for testing. Aitken arranged the markings to be so placed on the tube that when the knurled collar is set with its bottom edge coincident with one of them, impure air is introduced in such quantity that when it is mixed with the pure air in the receiver and expanded by a full piston stroke, there will be in the receiver that proportion of impure air specified by the marking. An equation for this was given by Wait [9] in connection with his study of several counters made after Aitken's design, as follows.

If V_r is the volume of the receiver, V_x the volume of the piston tube with the piston down at full stroke, and V_s the volume of the piston tube above the piston head for any marking 1/S, then $[(V_r+V_x)/V_r]\cdot[(V_r+V_s)/V_s]=S$. Aitken also arranged the height of the receiver above the counting stage to be 1 cm; by counting particles falling on a mm square, his sampling was made from a volume of 0.01 cc in the receiver, necessitating introduction of a factor K = 100 to obtain particles per cubic centimeter.

Instruments copied after the Aitken design were found by Wait to have dimensions different from those of the original Aitken instrument and also to have the markings on the tube, G, improperly placed. In particular, the height above the counting stage was not 1 cm, thus affecting the factor, K. The instrument in use at Watheroo was no exception, and correct constants for it were determined in August, 1932. It was found that the product SK, instead of being 500 for 1/5 setting, 1000 for 1/10, and so on, had values as follows

Setting	Product SK
1/5	515
1/10	1100
1/20	2360
1/50	6625

The use of the Aitken counter involves several systematic operations, including initially clearing all nuclei from the receiver, next introducing a certain proportion of outside air, then mixing the air thoroughly, and finally expanding it enough times to insure the deposit of all

nuclei from the air, at the same time counting all the droplets that fall on a chosen square in the expansions. The counting must be done very quickly as the droplets evaporate in a few seconds.

For a satisfactory determination of the nuclei content of the air, ten repetitions of the above manipulations are generally made.

If for a given setting of the piston, more than ten droplets are deposited on the chosen square on the first expansion, the observation is discarded, the receiver cleared of nuclei, and a new setting of the piston, representing a smaller proportion of polluted air, is adopted for the particular occasion. To count more than ten particles before some of them evaporate is very difficult, and the piston setting is always made such as to keep the number deposited at any one expansion at some value smaller than ten per square millimeter.

Periods of Observation

The first series of nuclei measurements at Watheroo was made from February to April, inclusive, in 1924, one observation being made daily, generally at about 09h. During the summer of 1928, a few additional observations were made, but record of these has been lost. In 1931, observations were made in September and October; in this case also the time of observation was generally about 09h, although some of the observations were obtained between 14h and 16h. Regular daily measurement of nuclei at 09h was begun April 6, 1933, and has continued with but few interruptions since that time. The observations made in 1924 and 1931 were revised in 1932 after corrected constants for the counter had been determined.

Tables of Data

Nuclei data for 1924, 1931, 1933, and 1934 appear in the last section of this volume in Table 4. The measurements show that in the wet season the concentration at 09h generally ranges between 500 and 2000 nuclei per cc whereas in the dry season the concentration averages higher, the values ranging between 2000 and 5000 per cc. Measurements made on a few smoky afternoons gave concentrations of 20,000 to 30,000 per cc but such high values were rarely found at 09h.

GENERAL DISCUSSION OF RESULTS

Computation of Air-Earth Current Density

Values of air-earth current density have been computed from potential gradient and conductivity using the formula $i = G(\lambda+ + \lambda-)/30{,}000$ where i is the air-earth current density in 10^{-7} esu, G is the potential gradient in volts per meter, and $\lambda+$ and $\lambda-$ are the conductivities in 10^{-6} esu. Because of the excessive amount of computation required to obtain current densities for every hour of the 1381 selected days, this was not undertaken; instead approximate values were computed, using the 11-year means of potential gradient and conductivity for each hour of the day in each month. Later, for four representative months, January, March, June, and July, computations were made of current densities for single-year means for each hour of the day; the resulting values, when averaged for the 11-year period, were consistently 2 or 3 per cent lower than those directly obtained for 11-year means. The character of the diurnal-variation curve for air-earth current density was, therefore, essentially the same for both methods of treatment.

Diurnal Variation

In Figures 8 to 11 are shown the average diurnal-variation curves in each month, for the 11-year period, for potential gradient, positive and negative conductivity, and computed air-earth current density. The scales for the figures have been kept the same, and seasonal changes and other interesting features may accordingly be readily seen.

In the early months of the year, the conductivities are in general low and the potential gradient is high, but as the year progresses into the wet season (May to October) the conductivity values increase and the potential gradient decreases. In the late months of the year, there is a return to low conductivities and high gradients. In view of these reciprocal changes, a smaller seasonal effect on computed air-earth current density, as anticipated, was found to be the case. However, in January and February, the smokiest months of each year, the current densities were much lower than in any of the other months, perhaps because of increased columnar resistance over the station occasioned by the accumulation of smoke in the atmosphere.

Seasonal Differences in Diurnal Variation

The diurnal variation in potential gradient is strikingly different in the wet and dry seasons of the year. In the dry summer season, the variation is regular in character, the maximum value occurring near midnight, 120° east meridian time (EMT). In the wet, cold season, the diurnal-variation curve is broken and irregular with a maximum between 14h and 17h. The conductivity curves show less seasonal difference. They are regular throughout the year, but the times of maximum and minimum change somewhat with season, occurring at about 06h and 18h, respectively, during the hot season, and at about 08h and 16h during the cold season.

It should also be noted that the positive and negative conductivity curves are not in phase; there is a lag in time of occurrence of both maximum and minimum for the negative conductivity as compared with the positive. The lag in time of maximum, however, differs somewhat from the lag in the time of minimum. While the maximum lags about an hour, the minimum lags two hours or more, so that the interval between maximum and minimum is smaller for positive conductivity than for negative. This difference in character of diurnal variation of the two conductivities gives rise to a diurnal variation in the ratio of positive to negative. The variation in this ratio through the day, for different times of year, will be

discussed in detail later when consideration is given to the application of the "electrode-theory" of J. Scholz [10] to the data here presented.

The diurnal-variation curves for computed air-earth current density reflect the seasonal differences in the potential-gradient curves, being more irregular in the wet season than in the dry, without, however, departing from the essential characteristics of an early-morning maximum and early-evening minimum.

The seasonal difference in each element is more easily seen through comparing the curves in Figure 12. Mean curves are given for the period November to March, representative of the hot, dry season of the year, and for the period May to August, representative of the cold, wet season. All elements differ considerably in both magnitude and character of variation for the two seasons, but the potential gradient is outstanding in this respect. For a few hours around noon, both magnitude and variation in potential gradient are similar in the two seasons. For all other hours of the day, the difference is very marked. The noted similarity during the few hours around noon is unexpected, for both conductivities are much higher at all hours of the day during the wet season than during the dry and one might accordingly expect the potential gradient to be lower at all hours during the wet season than during the dry. In view of the above consideration, it is apparent that the air-earth current density is particularly high around noon during the wet season as compared with the dry season, as may be seen from the upper set of curves in Figure 12. As will be apparent from later discussions, the factor most responsible for this difference in character of the air-earth current-density curves is the total potential between Earth and the upper conducting layer.

Harmonic Analysis

Some of the features of the diurnal-variation curves for the different elements are further revealed by harmonic analyses, the results of which are given in Figure 13. In the top row of the figure are three harmonic dials for the 24-hour waves in potential gradient, conductivity, and computed air-earth current density. In the bottom row are the corresponding dials for the 12-hour waves. For all three elements, the amplitude of the 12-hour wave is, in general, only one-fourth or one-fifth as large as that of the 24-hour wave. Exceptions to this generalization are found in the potential gradient for the months from May to September, where the 12-hour wave exceeds the 24-hour wave in amplitude, being between 1.2 and 2.9 times as great.

The phase angles for the 24-hour waves in potential gradient fall into two groups. In one group are the eight months from September to April, with their maxima between 21h and 23h, 120° EMT, or 13h and 15h GMT. These are in good agreement with the time of maximum of the universal 24-hour wave over the oceans found by Mauchly [11]. The four remaining months of May to August have their maxima between 15h and 18h, 120° EMT, or 07h and 10h GMT, and thus are in disagreement with the universal 24-hour wave.

This disagreement, which was noted in the earliest years of recording, led to careful investigation and testing of the potential-gradient apparatus over a period of months. It was thought that with frequent fogs, mists, and rains from May to August, there might be insulation leak during the night hours when the humidity is high, in spite of all efforts to prevent it. Leaks at such times would obliterate the normal maxima and might be expected to give diurnal-variation curves similar to those obtained. It was finally concluded from the tests that insulation leak was not high and therefore could not be responsible for the unusual features of the diurnal variation of potential gradient in the wet season. The present study of the 11 years of record supports this conclusion. It appears now that other elements -- conductivity, air-earth current density, and the total resistance of the air column over the station -- undergo diurnal changes which can account for the unusual variation of potential gradient in the wet season.

As shown in Figure 13, the 24-hour wave in positive conductivity has a maximum at 06h, 120° EMT, while in the negative conductivity the maximum occurs more than an hour later. This lag of about one hour is a persistent feature in all months throughout the 11 years. It is also readily seen in the 11-year means of the conductivities in Figures 7 to 11 as was pointed out earlier. The 12-hour waves for the two conductivities also show a phase difference, though it is not equally pronounced in all months. The seasonal changes in conductivity, seen in Figures 7 to 11, involving changes in the time interval between maximum and minimum with change in length of day, are not brought out by the harmonic analysis.

The 24-hour wave for computed air-earth current density in Figure 13 shows a considerable systematic annual change in phase. In the dry season of November to March, the maximum occurs at 03h or 04h, 120° EMT, and in the wet season of May to August, it occurs at 07h or 08h, 120° EMT. From evidence to be presented later, this large shift in the time of maximum appears to be governed chiefly by the behavior of the total potential between ground and upper conducting layer, since, as the later discussion will show, the total resistance between ground and conducting layer preserves the same type of diurnal variation throughout the year.

The 12-hour wave in air-earth current density shows no systematic annual change in time of maximum. The amplitude of the 12-hour wave is not so large as that of the 24-hour wave, being only about one-third as great in May and June and about one-fifth as great during the remaining months. In summarizing the more important features shown by the harmonic dials in Figure 13, there are four points of particular interest: (a) for all three elements, the amplitude of the 12-hour harmonic is generally small compared with that of the first harmonic; (b) the phase angle of the 24-hour wave of the potential gradient in each of the months from May to August differs radically from the phase angle of the well-known universal wave found in the curves over the oceans, while for each of the remaining months there is good agreement with the universal wave; (c) the phase angle of the 24-hour harmonic for both positive and negative conductivities remains essentially constant throughout the year, although the time of maximum of the negative conductivity occurs later than that of the positive by about one hour; and (d) the 24-hour harmonic in computed air-earth current density has essentially a constant amplitude throughout the year, while the phase angle changes in a regular manner, giving a much earlier time of maximum in December and January than in June and July.

Annual Changes

The annual changes in conductivity, potential gradient, and calculated air-earth current density are shown in Figure 14 for each of the 11 years. Both positive and negative conductivities are highest during the wet months of May to August, with the June values most frequently the highest of all. February is most frequently the month of lowest conductivity, although during the other smoky months the values are also low in all years. In all months, negative conductivity values are lower than positive. The annual change in potential gradient is opposite to that in conductivity, the smoky months of November to March having the highest values and the wet months of May to August having the lowest.

The annual curves for calculated air-earth current density are similar in character to those for the conductivities, with high values in the wet season and low values in the dry. All three elements thus reflect the local atmospheric conditions at Watheroo through the year. The frequent fires over the surrounding region in the months from November to March furnish condensation nuclei which, even on the selected nonsmoky days under discussion, must remain at higher average concentrations than the nuclei of the wet season. These higher concentrations thus lower the concentrations of small ions and so cause lower conductivity or higher resistivity in the smoky months than in the other months of the year. The lowered air-earth current density during the smoky season implies that this higher resistivity exists to relatively high levels in the air, as it must do sufficiently to affect the total resistance of the column of air over the station. In the wet season nuclei are no longer supplied by local bush-fires, but there are always some nuclei present, either brought in from distant regions or created by activities at the observatory. However, these are kept to relatively low concentrations by the rains, so that it seems appropriate to find higher conductivities and also higher air-earth current densities during the wet season than during the dry smoky season.

That lower concentrations of nuclei occur in the wet season may be seen from the tables of nuclei measurements given in Table 4. At 09h in the wet season, the concentration generally ranges between 500 and 2000 per cc, whereas in the dry season the concentration averages higher, the values ranging between 2000 and 5000 per cc. Measurements on a few smoky afternoons gave concentrations of 20,000 to 30,000 per cc, but such high values are rarely found at 09h.

SPECIAL REPORTS

Electrode-Effect

Undoubtedly convection and turbulent action in the atmosphere play an important role in determining the character of the daily variation in the ratio $(\lambda+/\lambda-)$. The seasonal curves for wind velocity are shown in Figure 15. Regardless of season, the wind velocity averages seven or eight miles per hour during the daylight hours and two to four miles per hour at night, and the change from high to low values, or the reverse, is very rapid. During the night hours when there is little mixing of the air, the normal positive electric field of the Earth can produce a marked depletion of the negative small ion content near the ground (the so-called "electrode-effect"), resulting in a large value for the ratio of positive to negative conductivity. Conversely, during the daylight hours, when there is considerable mixing of the air, a marked depletion of negative ions near the ground cannot be maintained by the electric field of the Earth, and consequently the ratio during this time of minimum electrode-effect will approach unity.

A theory regarding the electrode-effect, involving a relationship between the ratio of positive to negative conductivity, the electric field of the Earth, and the concentration of condensation nuclei, has been developed by Scholz [10]. The important part played by the condensation nuclei in the destruction of the small ions was recognized by Scholz, and the theory was developed on the assumption that nuclei are uniformly distributed with height and are much more numerous than small ions. Some of the present data have been examined in connection with this theory. According to this theory, the ratio of positive to negative conductivity at a given height in the atmosphere is a function of the potential gradient at that height and of the concentration of condensation nuclei. Following considerations similar to those outlined by Gish and Sherman [12], who applied the theory to data from Fairbanks, Alaska, nuclei concentrations have been computed for Watheroo for certain periods. Gish and Sherman concluded that the theory could be applied to the winter data from Fairbanks, when the wind velocity did not exceed two and one-half miles per hour, and to such parts of the summer data as those for the night hours when the wind did not exceed four miles per hour. It was apparently not applicable to data for the daylight interval in summer when the wind velocity usually was six to eight miles per hour. Conditions are, of course, different at Watheroo, and it is not possible to predict the degree of turbulence there. Since it appears likely that conditions at night are generally such that little turbulence exists, one may undertake to apply the theory of the electrode-effect to data obtained at night. During the daylight hours, on the other hand, it is probable that the theory will not apply.

In the application of the electrode-theory, values of potential gradient and the corresponding values of the ratio of positive to negative conductivity were used to compute the concentration of condensation nuclei (N_A) for each hour of the day for different periods of the year. The results were grouped under three time intervals, namely, 00h to 06h, 07h to 18h, and 19h to 24h. Using the value of the nuclei thus computed with the corresponding observed value of positive conductivity, a value for q, the rate of small ion production, was calculated for each of the three periods. It was necessary to make certain assumptions in making these computations. The mobility k of both positive and negative small ions was assumed to be the same and to be equal to 1.5 cm per sec per volt per cm. Also, it was assumed that the coefficient of combination of small ions with oppositely charged large ions was 5.4×10^{-6} and with uncharged nuclei was 2.7×10^{-6}. It was further assumed that the effective height at which potential-gradient measurements were made was 50 cm, while that at which the conductivities were measured was 200

cm. The results of the calculations of both N_A and q are shown in Table 5.

As seen from Table 5, the value of q for any group of days is higher during the daylight interval of 07h to 18h than during either of the intervals at night. This is opposite to the effect found at Washington, D. C., where variation in q was determined with a thin-walled ionization chamber [13]. At Washington q is considerably lower during the period of daylight than at night, and there is good reason to expect that q at Watheroo should follow a similar course. This only emphasizes the point that the theory does not apply over this portion of the day.

In the two night periods, the values obtained for q are of the same magnitude as those generally accepted as representative of other localities, and one may, therefore, conclude that the theory of Scholz gives a reasonable value of q for Watheroo for periods when wind velocity is low. Values of N_A deduced from the theory are somewhat less satisfactory. They are higher than the values observed, particularly in the nonsmoky season, so that the theory gives only rough agreement with observation for this quantity.

Effect of Nuclei on Atmospheric-Electric Elements

Wait has made a study of the effect of nuclei on the various atmospheric-electric elements from simultaneous measurements of the number of condensation nuclei, the potential gradient, and the positive and negative conductivities [14] for a period of some months in 1924. Results of additional simultaneous observations of nuclei and the atmospheric-electric elements during the summer of 1928 have been discussed by Builder [15]. Both sets of data showed an approximately linear variation of the number of nuclei in the air with the potential gradient as well as with the reciprocals of the conductivities.

The calculated values of the air-earth current density for the data of both 1924 and 1928 diminish as the nuclei increase in number, thus indicating that the total resistance between the ground and the upper conducting region is effectively increased by the nuclei.

In a further study of the conductivity and nuclei data of 1924 and 1928, Gish [16] suggested that the relationship noted was consistent with the recombination law

$$q = \alpha n^2 + \beta nN$$

Here N and n refer to the nuclei and the small ion content, respectively, of the air; q represents the rate of small ion production; α is the recombination coefficient of small ions; and β is the coefficient of combination between small ions and condensation nuclei. The value of q obtained from the computations was surprisingly small. Both sets of data were consistent in this respect and also in showing a small value of β. The values computed when 1.5 cm per sec per volt per cm was assumed as the mobility of the small ions, and 1.6×10^{-6} as the value for α, were $q = 2.2\ I$ and $\beta = 0.44 \times 10^{-6}$ from the data of 1924, and $q = 1.2\ I$ and $\beta = 0.88 \times 10^{-6}$ from the data of 1928.

Values of q as small as these can hardly be regarded as real for a land station, and one may question whether the number of small ions in the lower atmosphere can be fully accounted for on the basis of this equation or whether the equation must be modified and to what extent. This matter has been touched upon by Wait [17] and was later examined in considerable detail by Nolan [18]. Although deserving further consideration, it is not treated in the present volume.

Effect of Smoke on Atmospheric-Electric Elements

Simultaneous land and ocean data.--The diurnal variation of the electric potential gradient over the oceans was found by Mauchly [11] to be quite independent of the location of the observing station; in other words, he found that it followed universal rather than local time. This being the case, variation from day to day in the mean daily values at different ocean stations would also be similar. Over land, however, where the potential gradient is generally affected by local disturbances of such a nature as to mask the universal variation, the day to day change in daily mean values would not necessarily agree with those at an ocean station. The air-earth current density, on the other hand, is usually less affected by local conditions, and the changes in mean daily values of this element at a land station might accordingly show a higher correlation with the changes found in this element over the ocean. It was considered of interest, therefore, to compare the day to day changes in air-earth current density at Watheroo and over the ocean, employing simultaneous data for the two localities.

Atmospheric-electric observations were made over the oceans aboard the Carnegie during all cruises, but only during the seventh cruise in 1928 and 1929 were simultaneous observations made at Watheroo. The results for Cruise VII have recently been published [19]. From simultaneous observations of potential gradient and conductivity at Watheroo and on the Carnegie, air-earth current density values were computed, and these have been examined to ascertain the extent to which the Watheroo daily values follow those found over the ocean. In Figure 16 are plotted daily mean values of the current density over the ocean (i_O) against the values found at Watheroo (i_W). Three of the curves represent months in the Watheroo summer season (November, 1928, January and February, 1929) and the remaining curve, a month in the Watheroo winter season (May, 1929). During May and November, there is usually very little smoke in the air at Watheroo, but in January and February, there is a great deal. From the curves it will be seen that November and May show a high correlation between the daily mean values of current density at Watheroo and over the ocean. During January and February, on the other hand, there is extremely low correlation. In other words, it appears that the presence of smoke in the air at Watheroo during January and February is sufficient largely to mask the universal changes in the current density and that in November and May it is not. To mask so thoroughly such changes, the smoke must appreciably alter the total resistance of the vertical column of air over Watheroo. This implies that smoke extends to considerable heights in the atmosphere.

Electrical Resistance of Vertical Column of Air

Information concerning the resistance offered by the vertical column of air at a station to the flow of the air-

earth current is not very abundant. An estimate of the manner in which this resistance varies with altitude was made by Gish and Sherman [20] from values of conductivity measured aboard the Explorer II on the stratosphere flight, November 11, 1935. Information concerning the resistance over a station on land may be secured also from observations of air-earth current density made simultaneously at the land station and on the ocean, if certain reasonable assumptions are made. Over the ocean, the current density, i_O, is equal to the ratio of the total potential, E_O, between the Earth and the upper air, and the total resistance, R_O, in a vertical column of air of unit cross-section, that is, $i_O = E_O/R_O$. Over land, in a similar manner, $i_L = E_L/R_L$. If it is assumed at a given time that $E_O = E_L$, then $i_O R_O = i_L R_L$, or the resistance over land, at the time, is $R_L = i_O R_O / i_L$. If, further, the reasonable assumption is made that R_O is constant through the day, the character of the diurnal variation of R_L may be determined from hourly values of the ratio i_O/i_L.

During November and December, 1928, and January and February, 1929, simultaneous atmospheric-electric data for the ocean and for Watheroo were obtained on 42 fair-weather days, and these have been analyzed [21]. Because of the prevalence of smoke during the summer at Watheroo, it was desirable to separate the data into two groups, one for smoky and one for nonsmoky days. In the former group were 17 days, and in the latter group, 25. Diurnal-variation curves for the various elements over the ocean and at Watheroo are shown in Figure 17; the curves on the right are for the 17 smoky days and those on the left for the 25 nonsmoky days. The curve at the bottom of each set represents the diurnal variation in R_w at Watheroo, when R_O is assumed to be constant through the day. Both bottom curves have essentially the same form. The amplitude of the curve for smoky days, however, is considerably greater than that of the curve for nonsmoky days.

In endeavoring to discover the significance of the curves of R_w for both smoky and nonsmoky days, an assumption was made as to distribution of smoke in the air over Watheroo. It was assumed that the smoke existed only in a limited lower region of the atmosphere, so that one could regard the total column of air over the station as being made up of two layers, the lower one containing smoke and the upper one free of smoke. The upper layer was assumed to have a resistance of r'_w which remained constant through the day. The lower layer was assumed to have a uniform resistivity, ρ_w, equal to that derived from the conductivity values of the lower layer of air. On this basis, $R_w = (r'_w + h_w \rho_w)$, where h_w is the effective height of the lower layer, then $i_O/i_w = 1/R_O(r'_w + h_w \rho_w)$. This is an equation of a straight line, where i_O/i_w is plotted against ρ_w, and R_O, r'_w, and h_w are regarded as constants. The ratio r'_w/R_O equals i_O/i_w when $\rho_w = 0$, while the ratio h_w/R_O represents the slope of the line. In Figure 18, hourly values of i_O/i_w are plotted against ρ_w for smoky days, and the result is a straight line. From this plot, the value of r'_w/R_O is 0.49, and assuming that $R_O = 10^{21}$ ohms, $r'_w = 0.49 \times 10^{21}$ ohms. The slope of the line is $h_w/R_O = 1.4 \times 10^{-4}$ and consequently the average height (h_w) of the lower layer becomes 1.5×10^5 cm or 1.5 km. This height appears to be essentially constant through the day.

In a similar manner, the plot of i_O/i_w against ρ_w for nonsmoky days was made, and the average value of the resistance of the upper layer of the air and effective height of the lower layer were determined. From this plot, shown in Figure 19, if it is assumed $R_O = 10^{21}$ ohms, r'_w is found to be 0.53×10^{21} ohms while h_w, except for a few hours in the morning, is 1.5 km the value being the same as that obtained for smoky days. For a few hours in the morning, h_w appears to increase slightly to about 2 km and then quickly returns to the 1.5-km level. This apparent change in height will be referred to again in later discussion. These results may be compared with those obtained for the variation in resistance with height from measurements of conductivity aboard the Explorer II [20]. From the curve given by Gish and Sherman, one would expect to find between 40 and 50 per cent of the total resistance lying beyond a point 2 km above the ground and the remainder below this point. The present determinations of r'_w, therefore, are considered to be in good accord with the data taken aboard the Explorer II.

Smoke Effect in 11-Year Period 1924-1934

In another analysis of the effect of smoke on the atmospheric-electric elements at Watheroo, the 11 February months in the period 1924 to 1934 were critically examined. In February, as in other summer months, the days when smoke is noted are interspersed more or less irregularly among days when there is no smoke observable. The days were grouped under one of three headings: (1) selected, least-disturbed, fair-weather days when there was no evidence of smoke at the observatory; (2) fair-weather days when the notes of the observers indicated presence of smoke or when evidence of smoke appeared to be unmistakable from the character of the atmospheric-electric records themselves (the latter chiefly during the night when the observers were not on duty); and (3) days when the presence of smoke was doubtful as well as days when stormy weather or other pronounced disturbing influences were present. It was found necessary to reject the data for both 1924 and 1934, the former because the positive conductivity was not recorded, and the latter because only three smoky days were available. From the remaining nine February months, 60 smoky days and 48 nonsmoky days were selected.

Diurnal Variation in Smoke Intensity

In Figure 20 are curves comparing the 60 smoky days and the 48 nonsmoky days for potential gradient, the sum of positive and negative conductivities, the ratio of positive to negative conductivity, and the computed air-earth current density. Inspection of these curves indicates that smoke causes an increase in potential gradient, a decrease in the sum of the conductivities, a relatively small change in the ratio of positive to negative conductivity, and a notable reduction in the air-earth current density. Furthermore, the effect of the smoke appears to be greatest at night, as the smoky-day curve for each element departs most widely during the night from the corresponding nonsmoky-day curve. This points to greatest intensity of smoke at night, and careful notes made through the years by members of the observatory staff are in accord with such a conclusion.

The effect of smoke through the 24 hours on potential gradient and conductivity can perhaps better be seen in Figure 21, where hourly ratios of smoky- to nonsmoky-day values of these elements are plotted. In this figure the largest ratios are found at night. The increase in potential gradient and decrease in conductivity, because of smoke, range between 50 and 100 per cent during the night and only between 20 and 40 per cent in the daylight hours.

Vertical Thickness of Lower Stratum of Air

It was pointed out in the discussion of Figure 20 that the average value of the air-earth current density on the 60 smoky days used in this study differed appreciably from that on the 48 nonsmoky days. Here, as in the case previously discussed, the reduction in current density indicates that the smoke is distributed throughout a vertical thickness sufficient to affect appreciably the total resistance of the vertical air column through which the current passes.

Using the February data, an estimate of the effective vertical thickness of the lower atmospheric region for smoky and nonsmoky days was made, following the procedure previously outlined. Adopting the same notations and the same mathematical development, one has the equation $i_o/i_w = (1/R_o)(r'_w + h_w\rho_w)$ where the subscripts and letters have the same meanings as before. According to this equation, a plot of the ratio i_o/i_w, against the resistivity, ρ_w, of the lower stratum of air at Watheroo, should yield a straight line, provided R_o and r'_w are constant. With both assumed as approximately constant through the day, plots were constructed, one for nonsmoky and another for smoky days at Watheroo. Unfortunately, values of i_o are available only for February, 1929. In view of the generally uniform behavior of this element, as judged from a comparison of results from the various cruises of the Carnegie, no great error is introduced through the use of 1929 values of i_o with values of i_w for the entire period of 1924 to 1934. The resulting plots are given in Figure 24. For the nonsmoky days, the points scatter about a line the equation of which is $i_o/i_w = 0.52 + 1.5 \times 10^{-4}\rho_w$. Consequently $(1/R_o)(r'_w + h_w\rho_w) = 0.52 + 1.5 \times 10^{-4}\rho_w$, that is, $r'_w = 0.52\ R_o$, and $h_w = 1.5 \times 10^{-4}\ R_o$. If we assume that $R_o = 10^{21}$ ohms, then $r'_w = 0.52 \times 10^{21}$ ohms and $h_w = 1.7$ km. With a similar procedure followed for smoky days, the points are found also to scatter about a line the equation of which is $i_o/i_w = 0.68 + 0.93 \times 10^{-4}\rho_w$. Again on the assumption that $R_o = 10^{21}$ ohms, it is found that $r'_w = 0.68 \times 10^{21}$ ohms and $h_w = 1.0$ km. These values are in reasonably good agreement with those obtained from the previous study of the simultaneous data of 1928-1929, where r'_w and h_w were 0.49 R_o and $1.4 \times 10^{-4}\ R_o$ for smoky days, and 0.53 R_o and $1.4 \times 10^{-4}\ R_o$ for nonsmoky days. It is noted for the nonsmoky-day plot of Figure 22 that the plotted points for the early morning hours lie slightly above the curve as drawn; this same effect was even more marked in the case of the simultaneous data of November-December, 1928, and January-February, 1929 [21], and for the latter data a curve was drawn in Figure 19 to indicate that this might represent an increase in effective height of the lower stratum of air. Another interpretation, however, is suggested by the curves in Figure 23.

The solid diurnal-variation curves of Figure 23 represent the ratio, i_o/i_w, obtained from simultaneous values of i_o and i_w computed from observed values of the atmospheric-electric elements for the period November-December, 1928, and January-February, 1929. They were taken from Figure 17. The dotted curves represent values of i_o/i_w as computed from the equation $i_o/i_w = (1/R_o)(r'_w + h_w\rho_w)$, when R_o, r'_w, and h_w are regarded as constants having values as given in the previous paragraph. In the latter case the resistance of a column of air having a height h_w and a resistivity of ρ_w, added to the resistance r'_w, for the air column above the height h_w, gives a total resistance relative to R_o of the amount indicated by the dotted curves. It is at once apparent that when one assumes the air column h_w to have a resistivity ρ_w throughout its length, the total resistance of the vertical air column in the early hours on smoky days is found to be slightly greater than shown by the solid curve for smoky days in Figure 23 and that for nonsmoky days it is found to be considerably less than given by the solid curve for such days. In other words, the results suggest that during the early hours of smoky days the smoke was somewhat more intense near the ground than it was higher up, and on nonsmoky days, although smoke may not have been noted near the ground, it may have been present at some distance above the ground.

To examine further the vertical distribution of smoke in relation to wind conditions, the values of potential gradient, positive conductivity, and negative conductivity were averaged for the various wind velocities, zero, one, two, etc., miles per hour, for smoky and nonsmoky days. for the two hours 00h-01h and 04h-05h. The investigation was restricted to these early morning hours in order to avoid the introduction of any effect from the diurnal variation. All days in the three months January, February, and March, in the years 1926 to 1934 were used so as to include a sufficient number of days to give reliable results. The resulting mean values of the potential gradient and those for the sum of positive and negative conductivity are plotted against the corresponding wind velocity in Figure 24 for nonsmoky days (A) and for smoky days (B). The plotted values of air-earth current were obtained from the product of the mean potential gradient and the mean conductivity. The ratio of positive to negative conductivity was derived from the corresponding mean value of each element. The number of observations for the smoky days was considerably smaller than for the nonsmoky days, and the results must be considered less reliable.

For nonsmoky days the conductivity and the potential gradient vary in an inverse manner. For wind velocities from zero to five miles per hour the conductivity decreases and the potential gradient increases with an increase in wind velocity. Both elements remain essentially constant for wind velocities greater than about five miles per hour. The ratio of positive to negative conductivity undergoes a decrease with an increase in the wind velocity. The air-earth current density increases for velocities from zero to five miles per hour, and thereafter it is essentially constant.

For the conductivity on smoky days the points scatter greatly, thus introducing considerable uncertainty. There appears to be a tendency, however, for this element to increase with wind velocity for velocities greater than four or five miles per hour and for the potential gradient to decrease, the air-earth current remaining more or

less constant throughout the entire wind velocity range. The ratio of positive to negative conductivity diminishes from a high value to a more typical value with an increase in wind velocity from 0 to 12.5 miles per hour.

The causes for the variation of the various elements with wind velocity appear to be consistent, in all cases, with those discussed in connection with Figure 23. According to Figure 24, on smoky days the accumulation of smoke near the ground during times of calm results in a low measured conductivity and a high potential gradient. The distribution of smoke with altitude appears to be sufficiently uniform so that moderate mixing by winds of zero to four miles per hour velocity produces no appreciable change in its concentration near the ground. For more than moderate mixing, however, the concentration near the ground diminishes. This appears to be due to something other than a removal of the smoke from the air column, for the air-earth current density remains unchanged. It must be due to a reduction in the density of smoke in the lower portion of the column as mixing produces a more uniform distribution throughout the whole column. The smoky-day curves of Figure 23 suggest such a distribution in intensity of the smoke with altitude. The strong electric field on smoky days would be expected to produce a scarcity of negative ions near the ground compared with the number of positive ions, the result being a large value of the ratio of positive to negative conductivity. During times of calm, the number of ions of the two signs will differ greatly near the ground and will be more nearly equal at higher levels. With increasing velocity of the wind, mixing of the air from the different levels would tend to bring about equality in the number of ions of each sign near the ground. This tendency to equality in numbers by mixing is found to occur for nonsmoky days as well. Since the field is less intense for the nonsmoky days, the depletion of negative ions on such days should be less near the ground at times of calm, and the ratio of conductivities should consequently be smaller, as Figure 24 shows.

The vertical distribution of smoke is very different for the nonsmoky days, according to the curves shown in Figure 23, and the mixing of the air by the wind will have a different effect, therefore, on most of the elements. During calm conditions, smoke, and therefore most of the condensation nuclei, if present at all, must be confined to the higher regions of the atmosphere. The low nuclei content prevailing in the lower stratum of air will permit a high conductivity. As mixing occurs through an increase in wind velocity over the range from zero to five miles per hour, some of the air of the higher regions richer in smoke particles or nuclei will be brought down to increase the concentration of particles in the lower air. This will decrease the conductivity of the air near the ground and increase the potential gradient. Some of the smoke particles or nuclei, during the mixing, doubtless settle to the ground and thus are removed from the air column. This process reduces the total resistance of the vertical column and results in an increase in the air-earth current density. For higher wind velocities little further change takes place in the atmospheric-electric elements; this suggests that further mixing does not greatly alter the distribution of the particles and therefore that uniform distribution has been essentially achieved. These possibilities appear to be consistent with the data of Figure 23 and Figure 24.

Diurnal Variation in Total Resistance of Vertical Air Column

The total resistance of the vertical column of air over Watheroo appears to have a systematic diurnal variation, if the results obtained by the analyses made in the foregoing discussions are accepted as valid. The maximum resistance occurs during the night and the minimum during the forenoon, as shown by such curves as those given for the ratio i_o/i_w in Figure 23. The factors responsible for this type of variation have been sought. The attempt has been made to attribute the variation to changes in distribution and concentration of smoke particles and condensation nuclei in the air column. During the smoky season from November to March, such causes may be real and acceptable, but in the wet season from April to October, when diurnal variation in total resistance is also found, other explanations are required. In the wet season smoke is not observed at the station, and the kindling of fires in the bush is prohibited by law. There are no large industrial sources of smoke closer than Perth, some 120 miles distant. It is difficult to believe that any considerable effect could reach the observatory systematically and daily from such a great distance. The ocean is 55 miles away, and although there exists the possibility that salt crystals, etc., serve as nuclei and reach the observatory at the correct times to bring about the changes in the total resistance, such an explanation seems unlikely. A satisfactory explanation for the wet season diurnal variation in total resistance remains to be found, so that further work on the problem is necessary.

HOURLY VALUES OF ATMOSPHERIC-ELECTRIC DATA

Hourly values.--Tables numbered 6 to 532 are monthly tabulations of potential gradient, positive conductivity, negative conductivity, and meteorology at Watheroo Magnetic Observatory. On each sheet of potential gradient and conductivity data there are tabulated hourly values which are means for successive periods of one hour, the first for each day being that commencing at midnight 120th east meridian mean time. On each sheet of meteorological data, values of air temperature, humidity, clouds, and other elements are given for stated times of each day, with general notes added to describe the prevailing weather conditions. The sheets are arranged in sequence of potential gradient, meteorological summary, positive conductivity, and negative conductivity, in each month, and the monthly groups are arranged consecutively for the 11 years 1924 to 1934.

Mean daily and monthly values.--On the tabulations of potential gradient and conductivity, daily mean values have been provided for all complete days in the column headed "mean" at the right-hand side of each table. The three lines at the bottom of each table contain monthly means for certain groups of values in each of the hourly columns. In the first bottom line, the means are based on data for all complete days, in the second line, on data for all days complete in potential gradient and both conductivities, and in the third line, on those days selected

as being undisturbed or very little disturbed, the selection being based largely on the appearance of the potential gradient record. To identify the days included in each of the above groupings, check-marks appear in the three columns beside the day of month.

Character figures.--Electric character figures have been tabulated for all days for which these figures can be determined. The character figure is intended to indicate the degree of disturbance on any day, but actually it indicates only the duration of negative potential. Three figures are used as follows:

0 = a day with no negative potential gradient,

1 = a day with an aggregate of two hours of negative potential or less,

2 = a day with an aggregate of more than two hours of negative potential.

Because negative potentials are encountered in disturbed weather, and disturbed weather generally causes large and rapid fluctuations in potential gradient which often make the record illegible, on some disturbed days there is uncertainty as to whether the character figure should be 1 or 2, and in some cases no figure at all can be given. It must be emphasized that very disturbed days are encountered which show high and variable positive values and no negative potential gradient; these are "zero" days as well as the very quiet days on which only average variations are seen, and the system of characterization therefore does not cover the entire range of disturbed conditions. Notably, smoke, fog, mist, and haze may cause very high positive values of potential gradient. Although classified as "zero" days, the days on which smoke and other disturbing factors are present belong in the category of disturbed days.

Interpolated and approximate values.--Interpolated hourly values have been placed in parentheses. Values have been interpolated for periods of not more than three hours only on days regarded as particularly quiet and undisturbed. No interpolating has been done over periods of bad weather. Approximate values have been placed in brackets; values found incomplete or made uncertain because of bad instrumentation or values obtained over periods of great disturbance have been indicated as approximate if recorded at all.

Explanatory symbols.--Where values are missing on the tabulations and in cases where information on certain hourly values would be useful in a study of the data, symbols and letters have been given, defined as follows:

The half bracket, ⌈ ⌋, is used to enclose one or more hourly values which weather notes have indicated as having been obtained during periods when high winds, smoke, fog, mist, haze, and other effects likely to be associated with pollution particles in the atmosphere have been present as disturbing factors in the vicinity of the observatory. These effects have been taken as being something other than "bad weather," the latter term being reserved for effects outlined in the next paragraph.

The serrated bracket, ≷ ≶, is used to enclose values obtained during rains, hailstorms, and thunderstorms, and when heavy storm clouds were noted in the vicinity. These effects have been grouped under the general classification of "bad weather."

The letter N has been placed before hourly values of potential gradient which on the average are positive but which include some recording of negative gradient. It has not been possible to indicate the duration or magnitude of the negative value, but in many cases such values exist for only a minute or two in the hour, and appear as very sudden excursions from the prevailing positive value on the photographic record.

The letter Z appears in place of a numerical value of potential gradient when rapid variation in that element prevents satisfactory photographic recording. When the record indicates with reasonable certainty that positive potential gradient has existed throughout the disturbed interval, Z+ is used, and Z- is used when negative gradient has been recorded throughout.

On the tabulations of meteorological data conventional cloud designations have been used as follows:

Cirrus	Ci	Fractocumulus	FrCu
Cirrocumulus	CiCu	Stratocumulus	StCu
Cirrostratus	CiSt	Stratus	St
Altocumulus	ACu	Cumulonimbus	CuNb
Altostratus	ASt	Nimbus	Nb
Cumulus	Cu	Nimbostratus	NbSt

The amount of overcast sky has been indicated on the scale of zero for cloudless to ten for overcast.

Wind velocity as measured by the anemograph has been recorded in miles per hour.

Notes indicating the presence of smoke, fog, mist, haze, rain, thunder, lightning, hail, frost, and other factors of interest in the study of atmospheric electricity have been placed in the last column on the meteorological tables.

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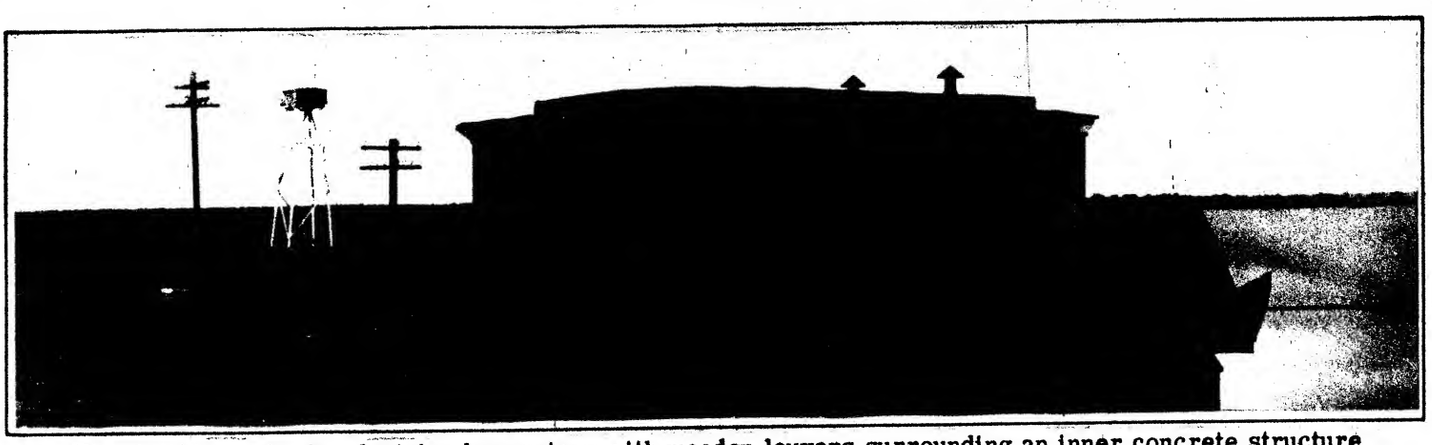


Fig. 1. Atmospheric-electric observatory with wooden louvers surrounding an inner concrete structure with 50 cm air space between; insert shows potential-gradient collector-rod with ionium collector-disk at tip and tubular hood to protect insulators and automatic relay

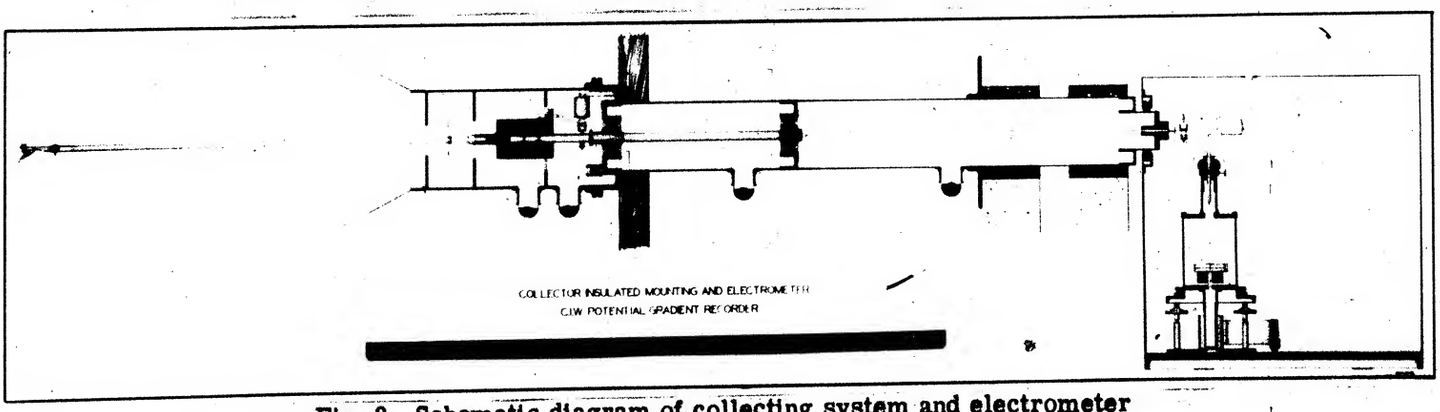


Fig. 2. Schematic diagram of collecting system and electrometer

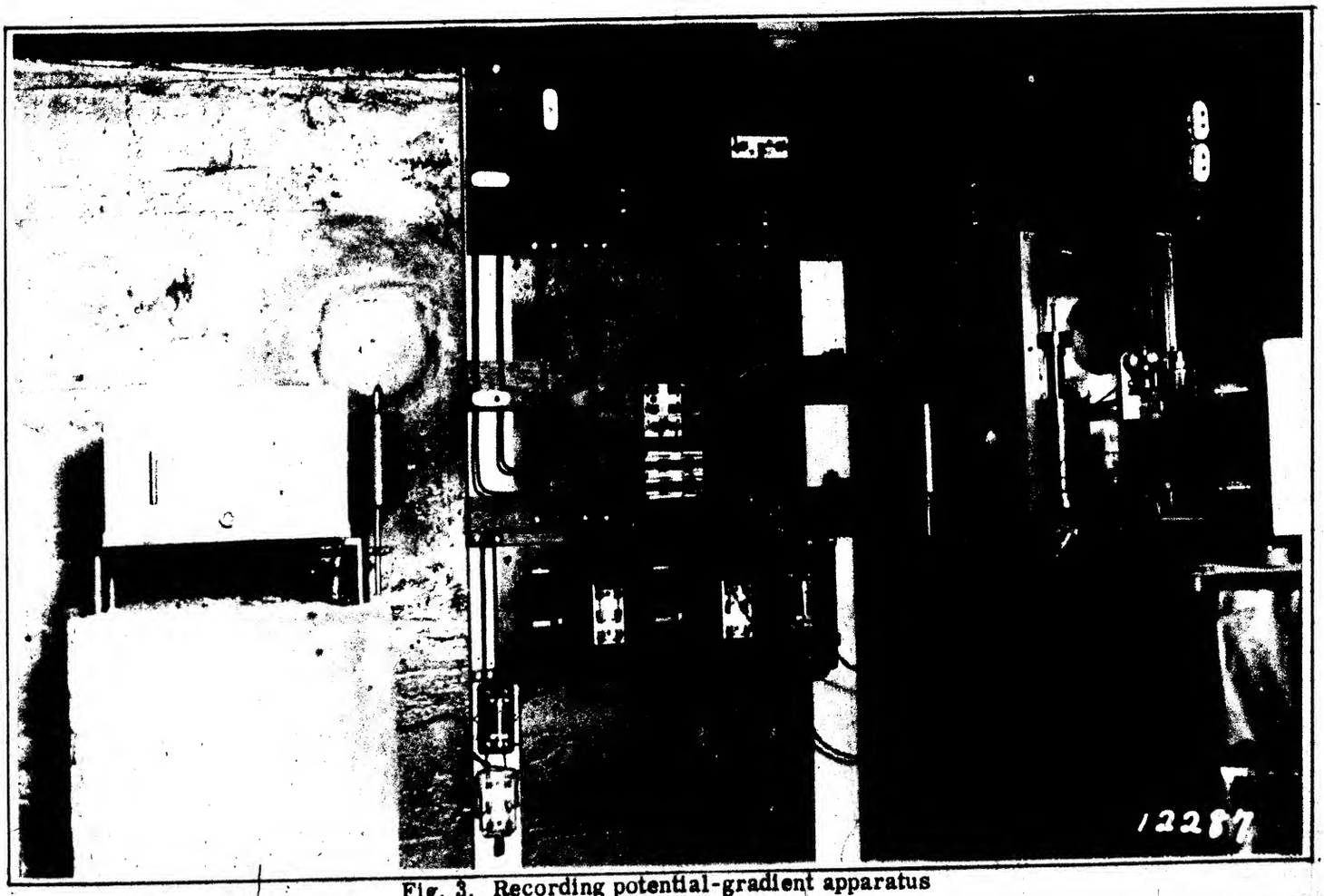


Fig. 3. Recording potential-gradient apparatus



Fig. 4. Recording conductivity apparatus with calibrating potentiometer

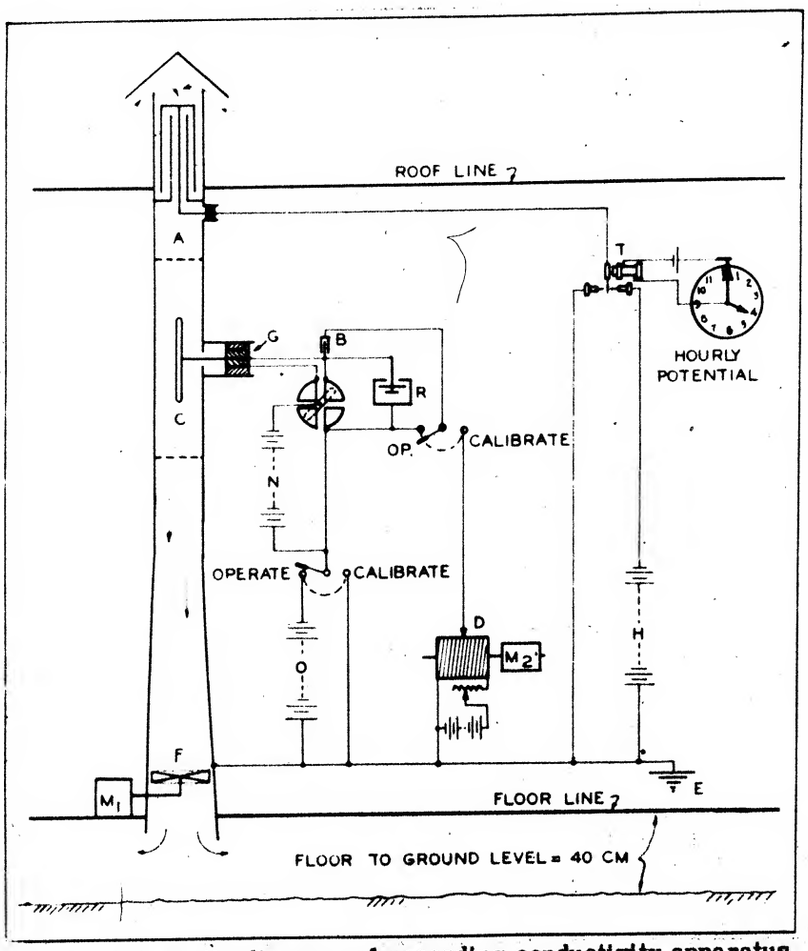


Fig. 5. Schematic diagram of recording conductivity apparatus with calibrating potentiometer

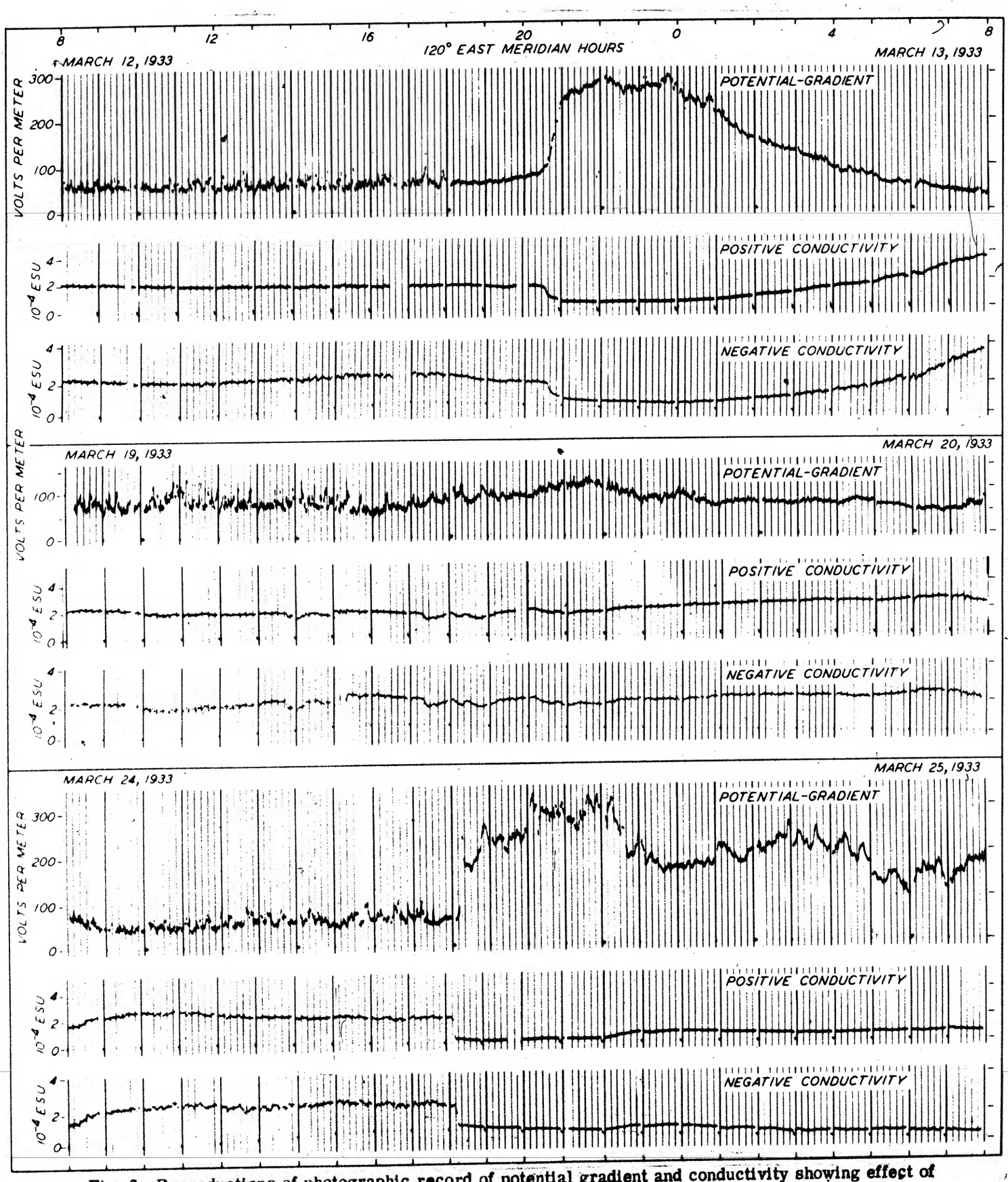


Fig. 6. Reproductions of photographic record of potential gradient and conductivity showing effect of smoke, March 12-13 and 24-25, smoky days, March 19-20, not smoky

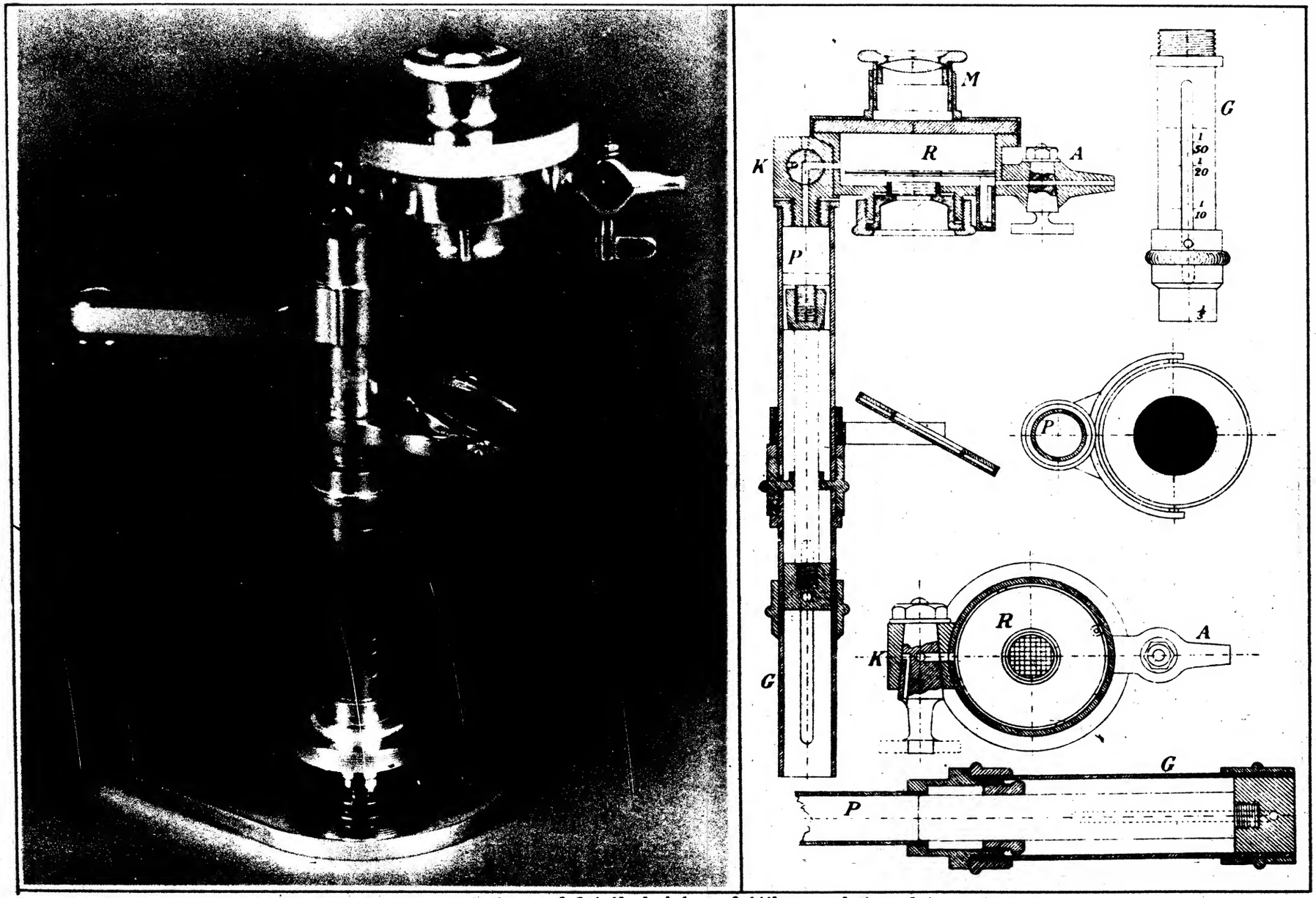


Fig. 7. General view and detail sketches of Aitken pocket nuclei counter

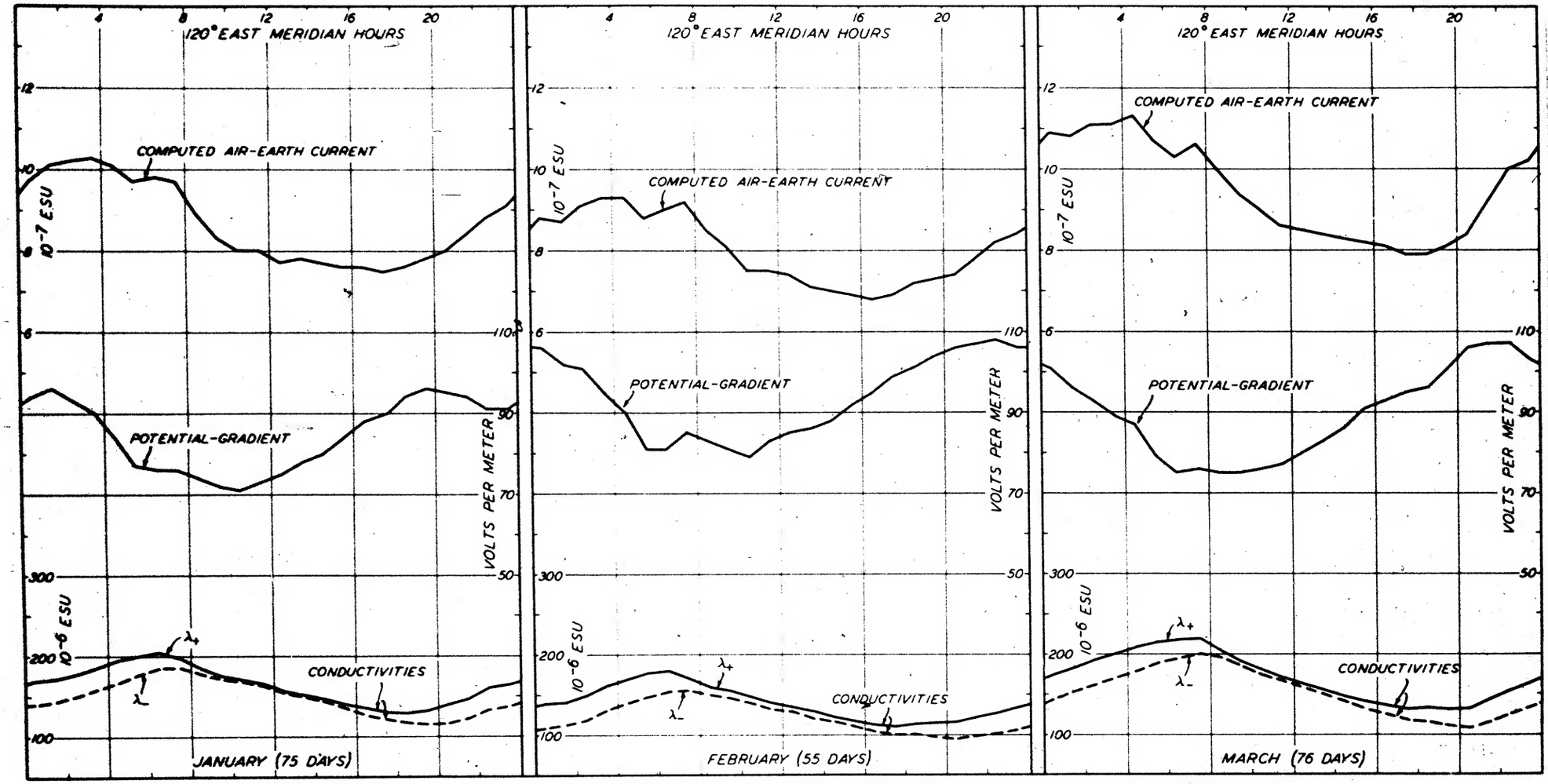


Fig. 8. Diurnal variation in recorded potential gradient and conductivities and in computed air-earth current for selected fair-weather days, 10-year means for January and February, 1925-1934; 11-year means for March, 1924-1934

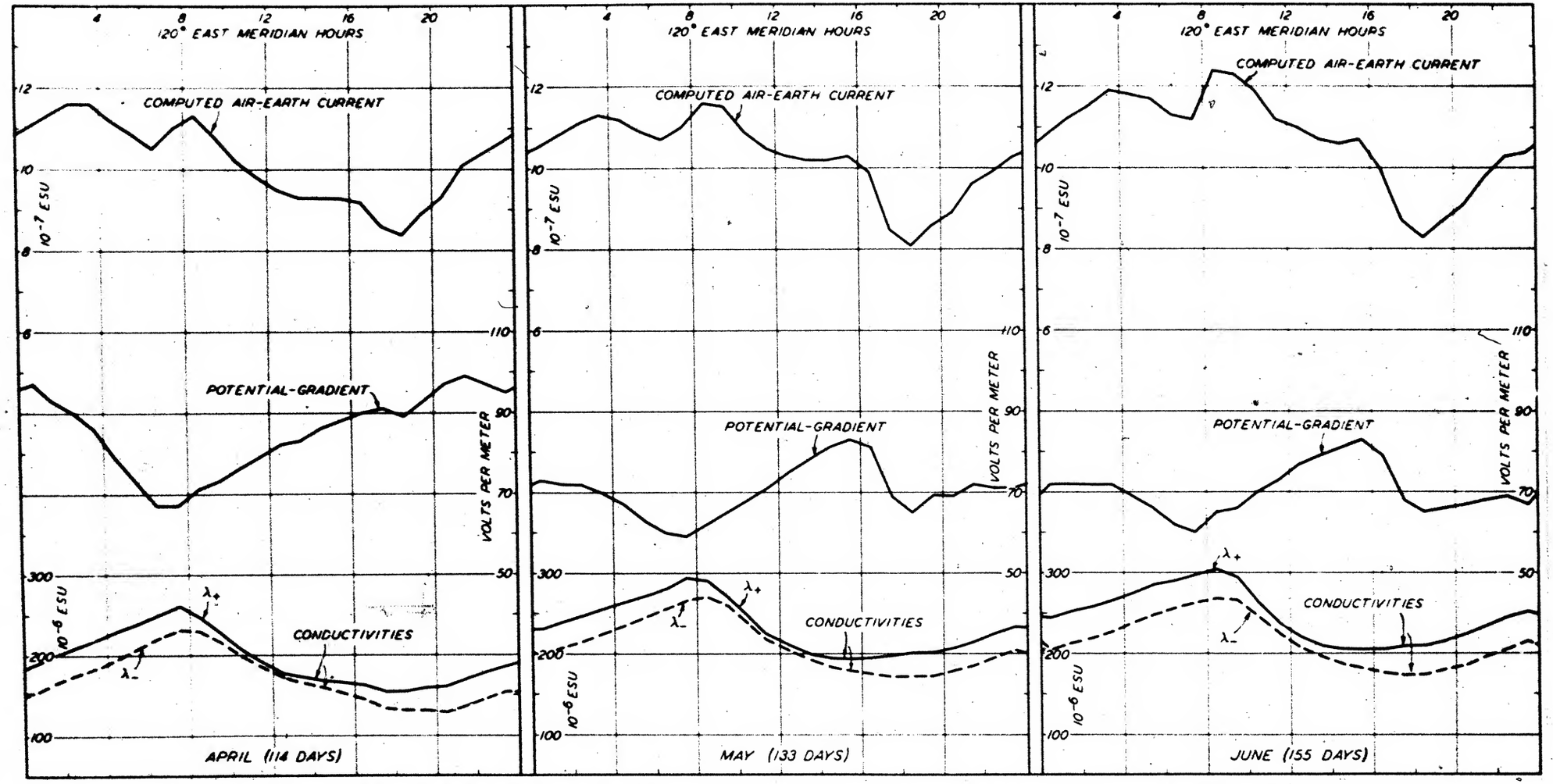


Fig. 9. Diurnal variation in recorded potential gradient and conductivities and in computed air-earth current for selected fair-weather days, 11-year means for April, May, and June, 1924-1934

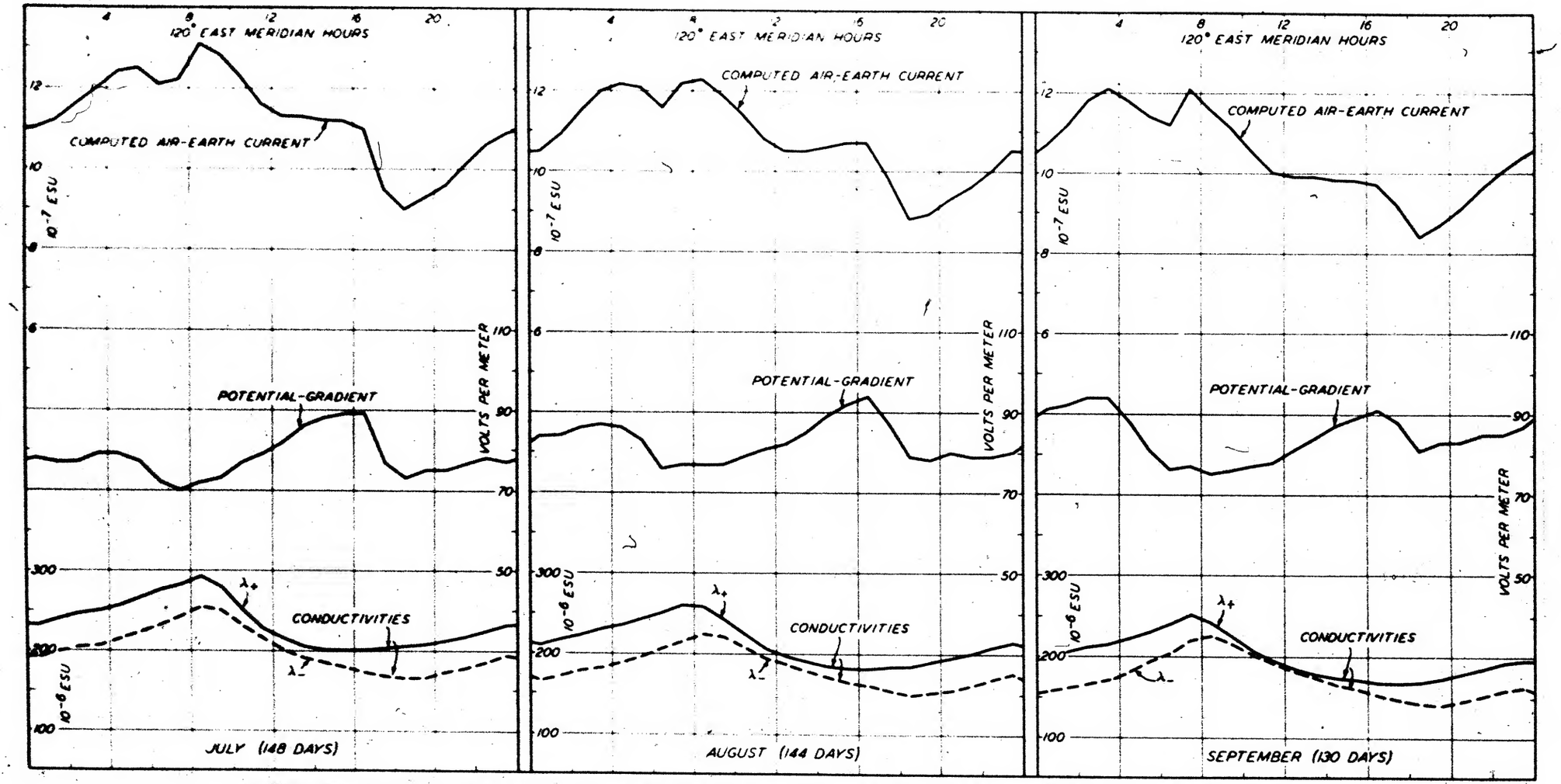


Fig. 10. Diurnal variation in recorded potential gradient and conductivities and in computed air-earth current for selected fair-weather days, 11-year means for July, August, and September, 1924-1934

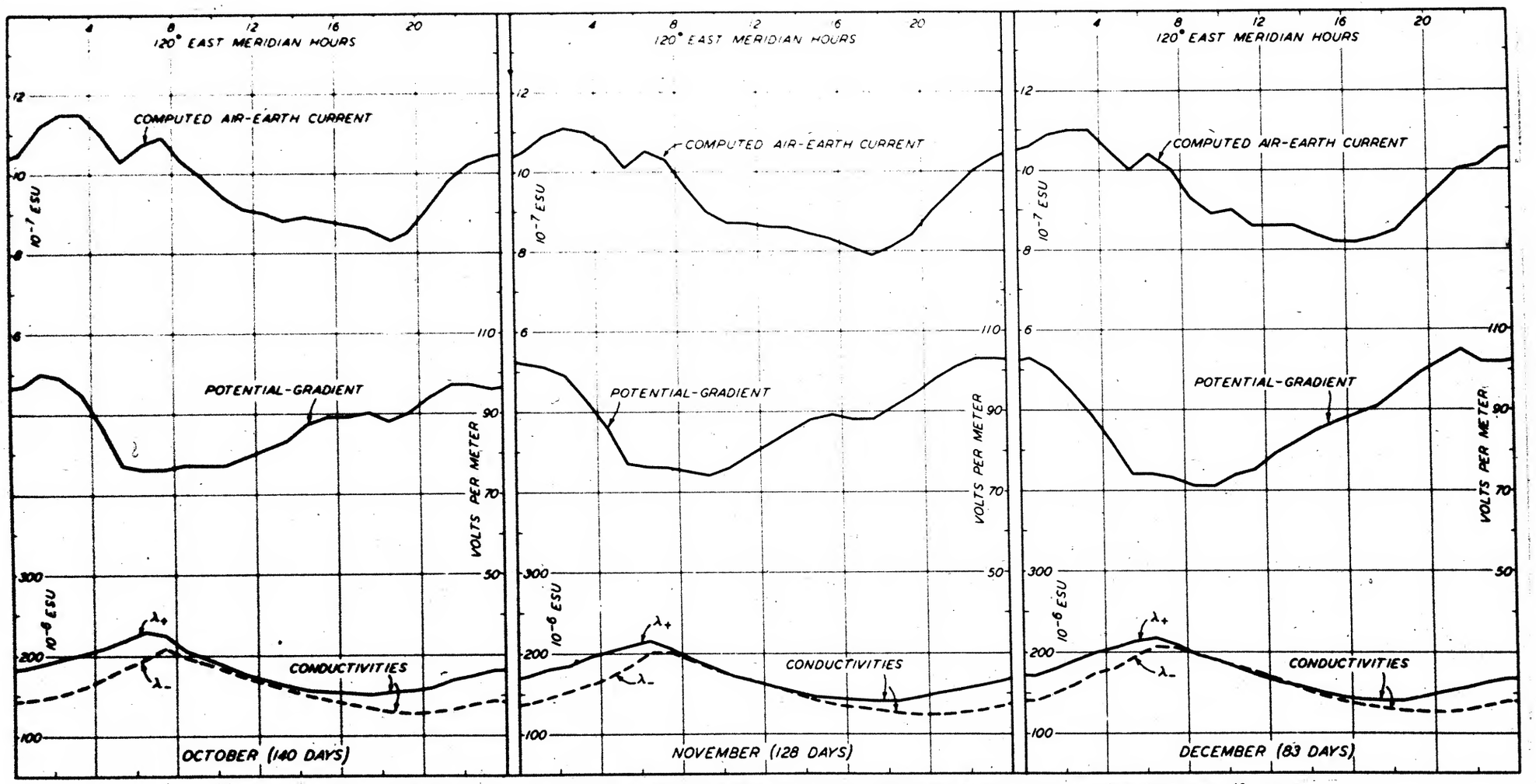


Fig. 11. Diurnal variation in recorded potential gradient and conductivities and in computed air-earth current for selected fair-weather days, 11-year means for October, November, and December, 1924-1934

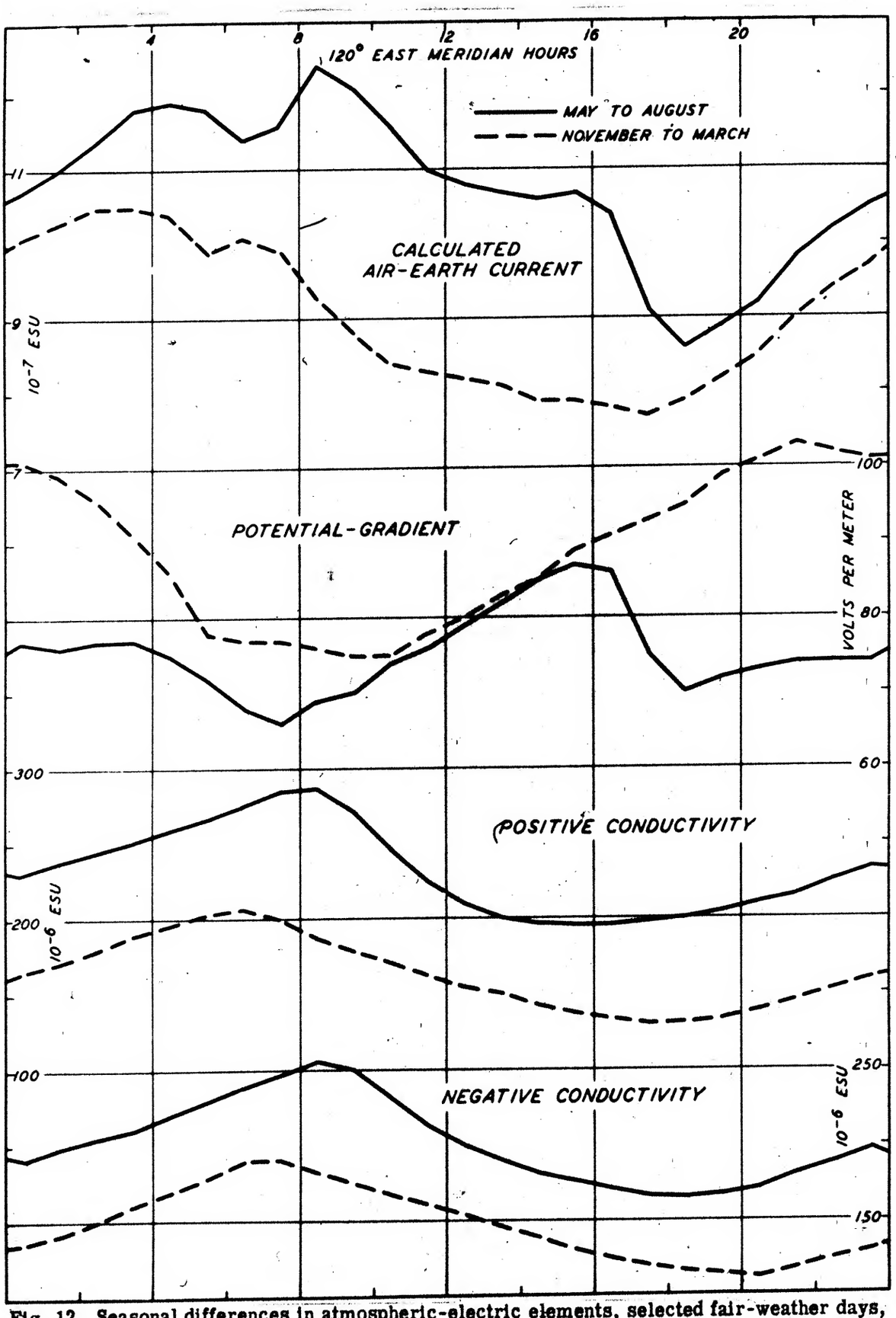


Fig. 12. Seasonal differences in atmospheric-electric elements, selected fair-weather days, 1924-1934. (May to August, cold wet season, 580 days; November to March, hot dry season, 407 days)

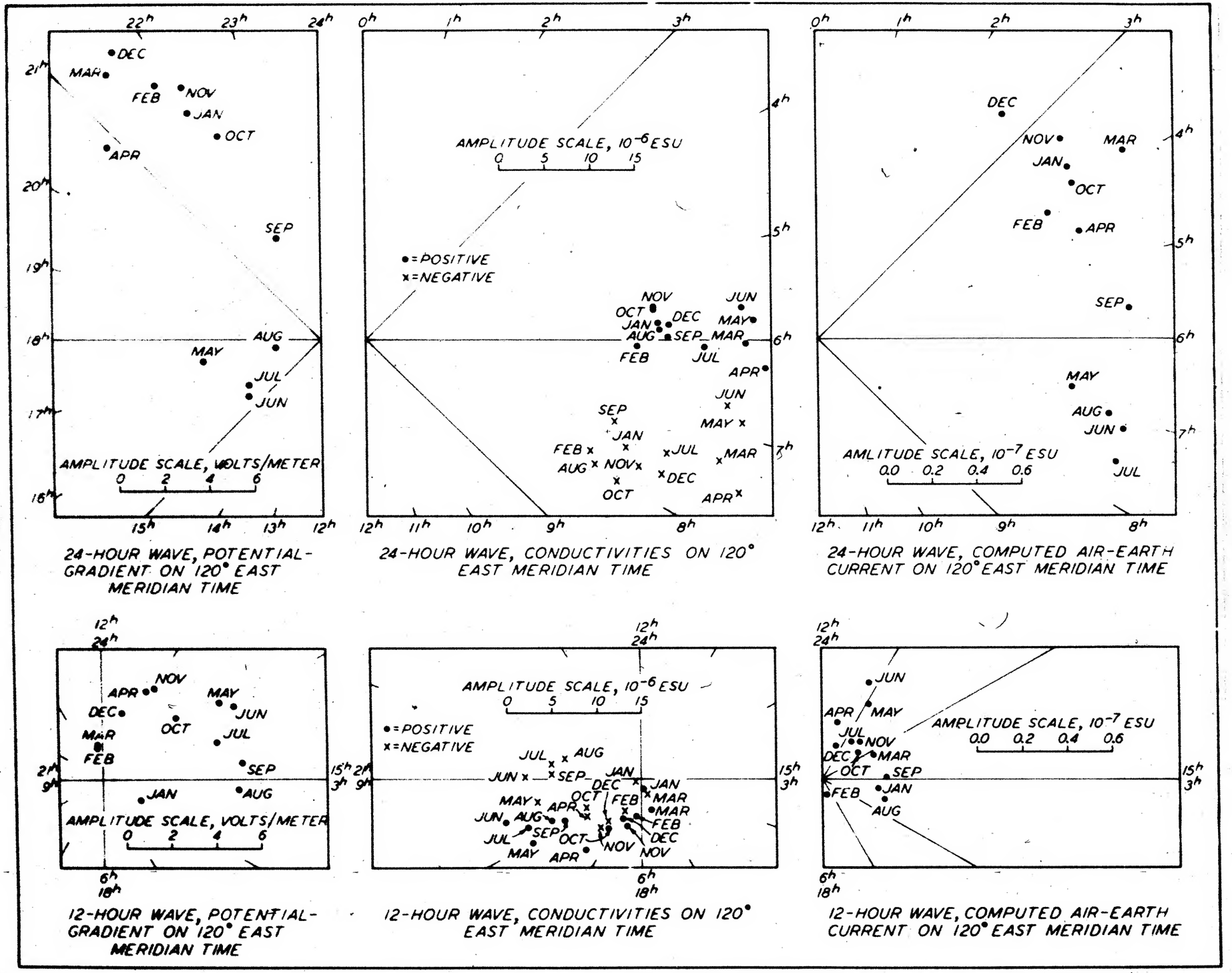


Fig. 13. Harmonic analysis of monthly mean curves of potential gradient, conductivity, and computed air-earth current for 11-year period, 1924-1934

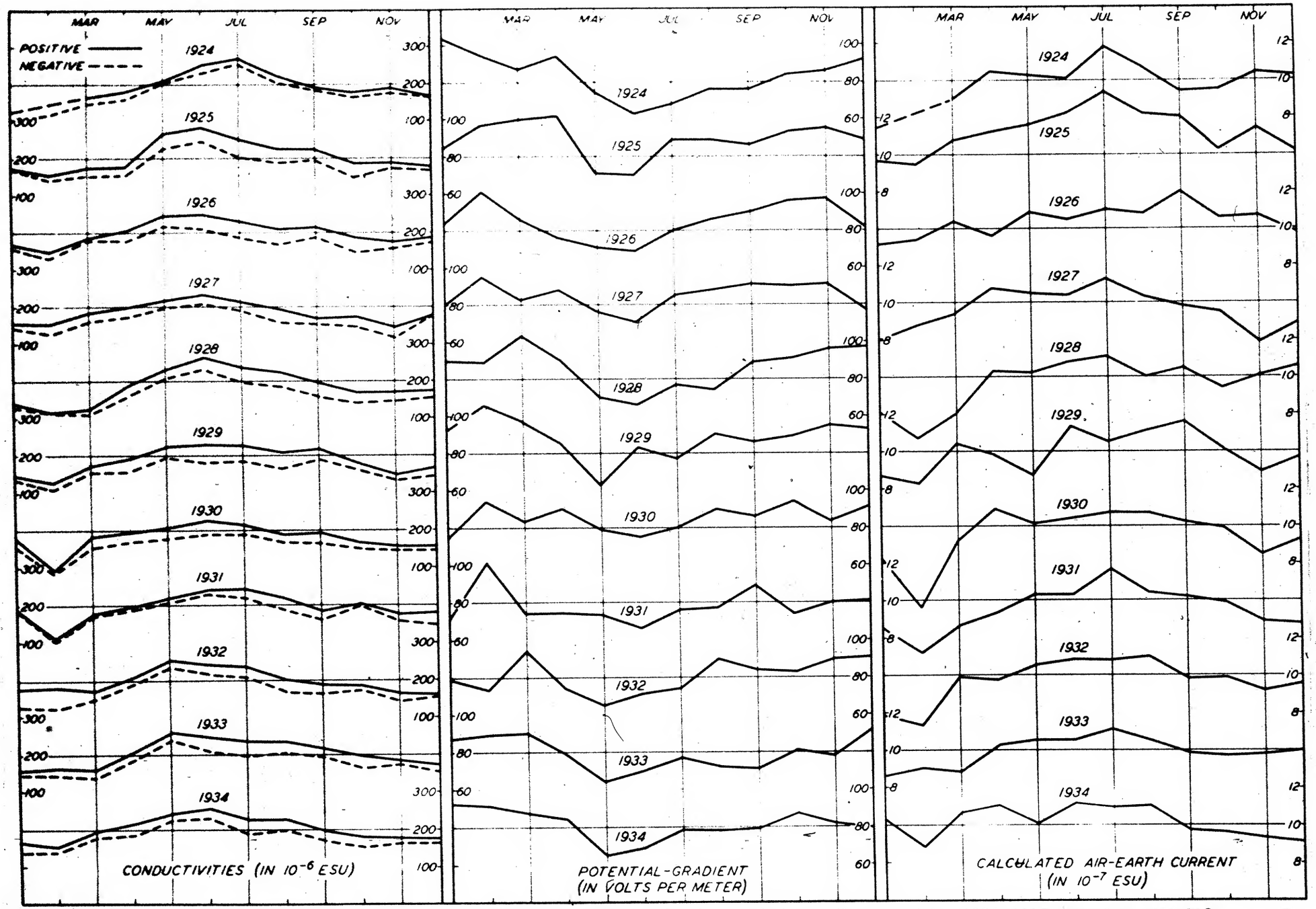


Fig. 14. Annual variation in conductivity, potential gradient, and calculated air-earth current for 1924-1934, based on selected, least-disturbed, fair-weather days

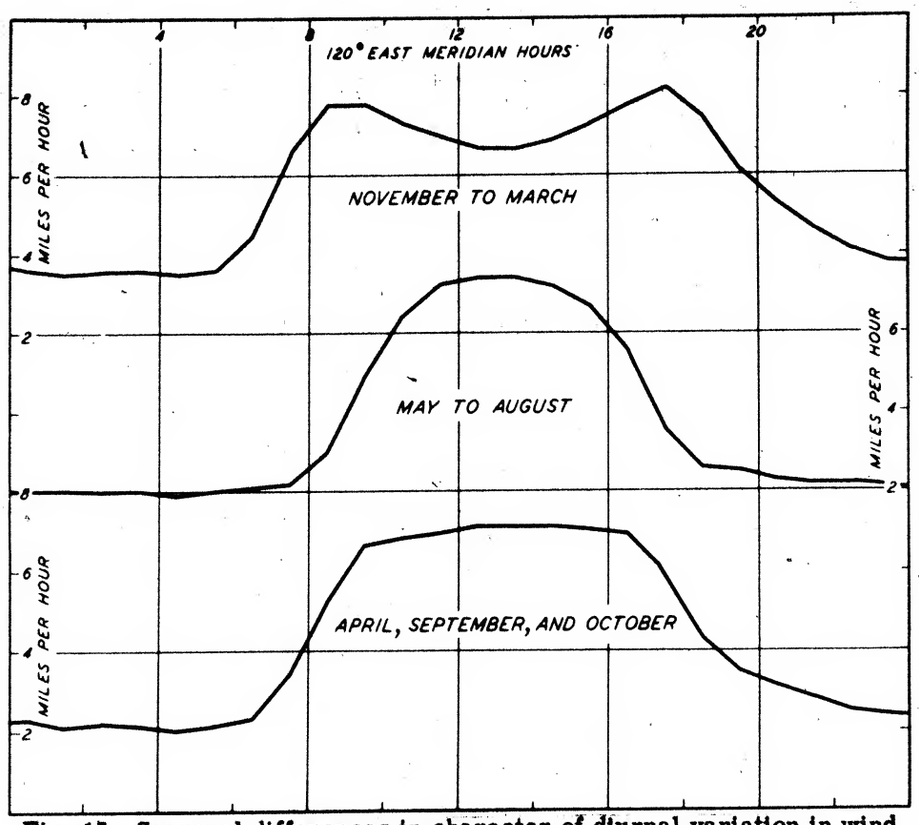


Fig. 15. Seasonal differences in character of diurnal variation in wind velocity, 1930-1934

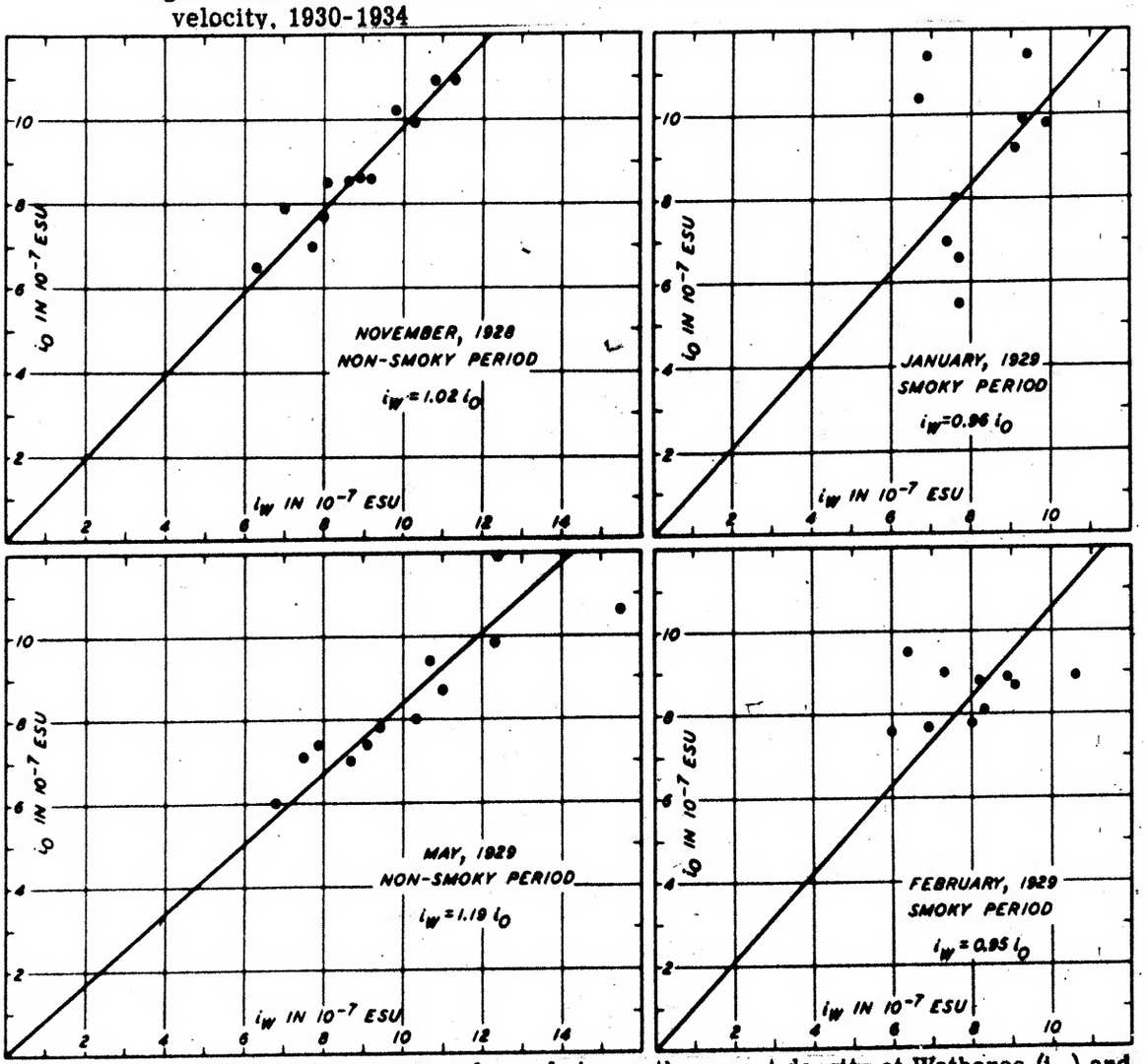
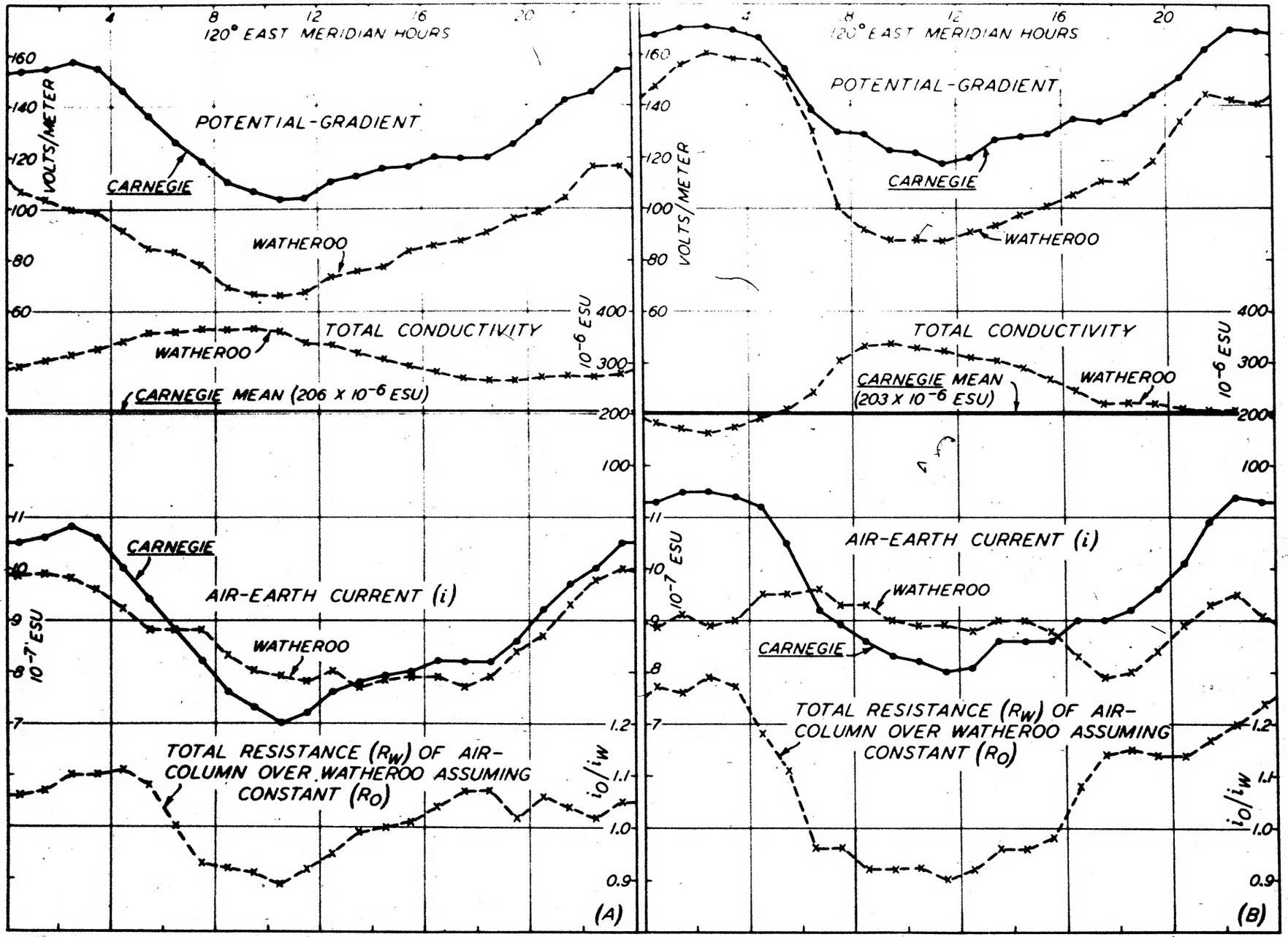


Fig. 16. Comparison of daily mean values of air-earth current density at Watheroo (i_w) and over the ocean (i_o), 1928-1929



CHARACTER	NOVEMBER 1928	DECEMBER 1928	JANUARY 1929	FEBRUARY 1929	TOTAL
(A) NON-SMOKY	8	5	7	5	25 DAYS
(B) SMOKY	4	5	3	5	17 DAYS

Fig. 17. Diurnal variation of atmospheric-electric elements at Watheroo and over the ocean from simultaneous observations

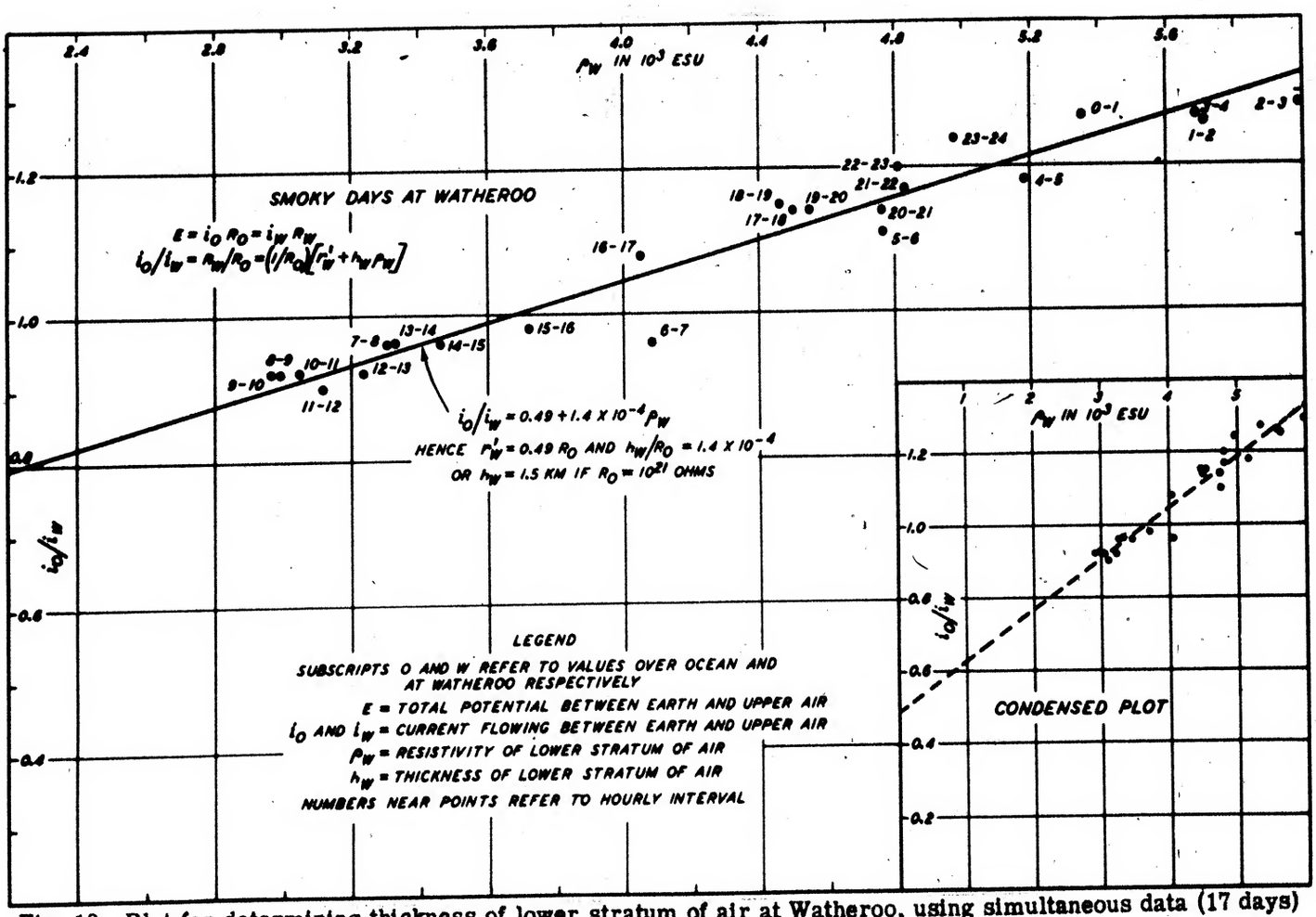


Fig. 18. Plot for determining thickness of lower stratum of air at Watheroo, using simultaneous data (17 days) over ocean and at Watheroo, November, 1928, to February, 1929

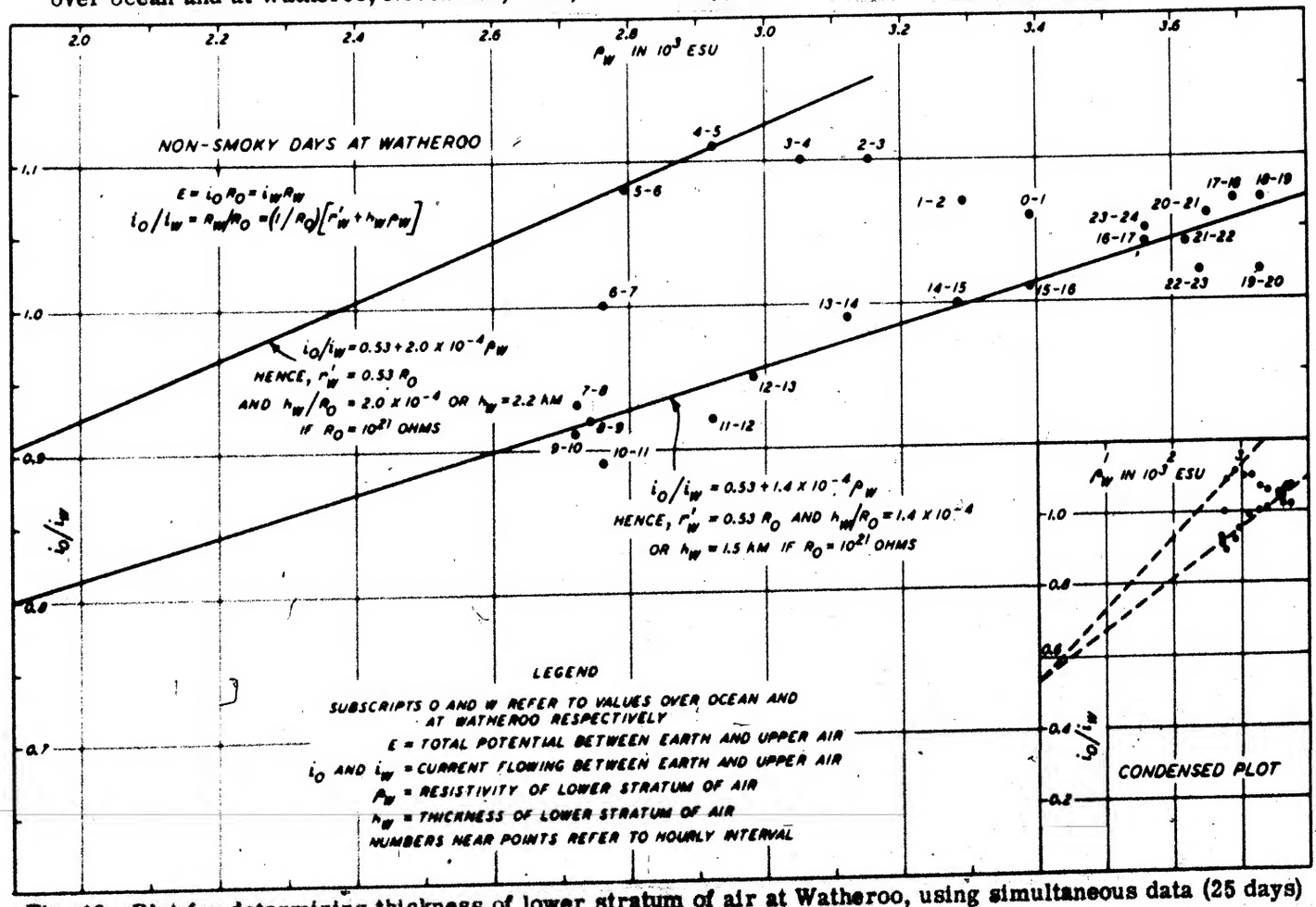


Fig. 19. Plot for determining thickness of lower stratum of air at Watheroo, using simultaneous data (25 days) over ocean and at Watheroo, November, 1928, to February, 1929

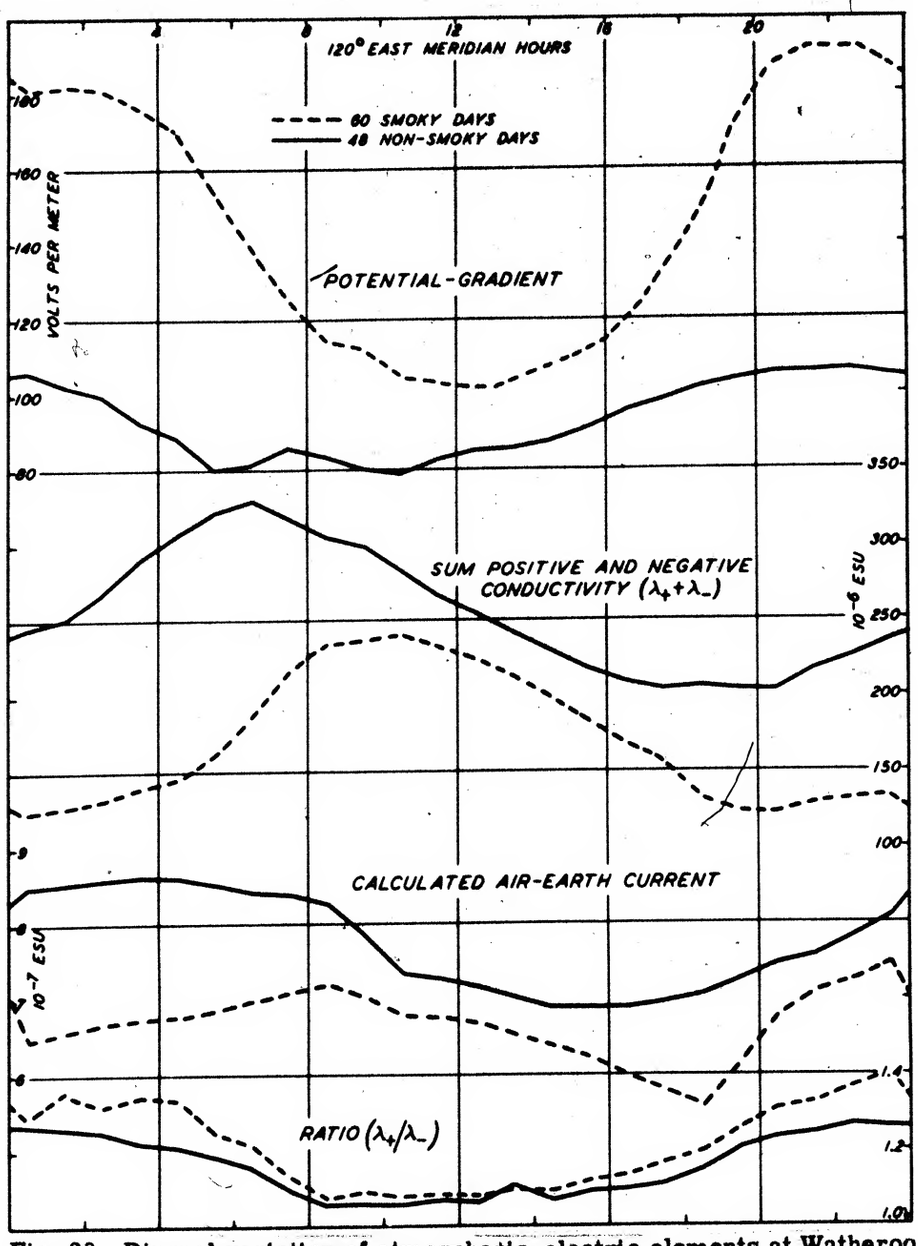


Fig. 20. Diurnal variation of atmospheric-electric elements at Watheroo for smoky and nonsmoky days during February, 1926-1934

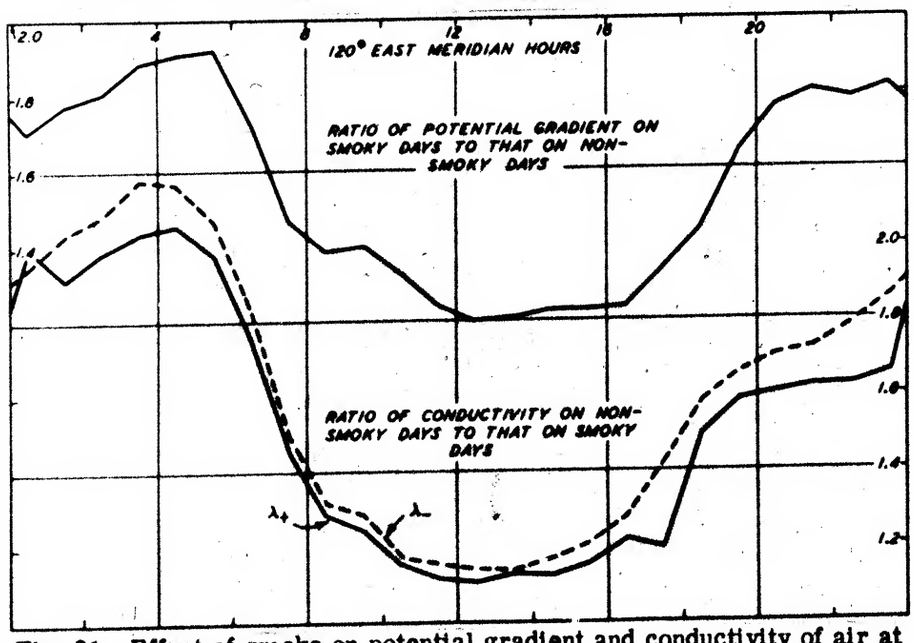


Fig. 21. Effect of smoke on potential gradient and conductivity of air at Watheroo, February, 1926-1934

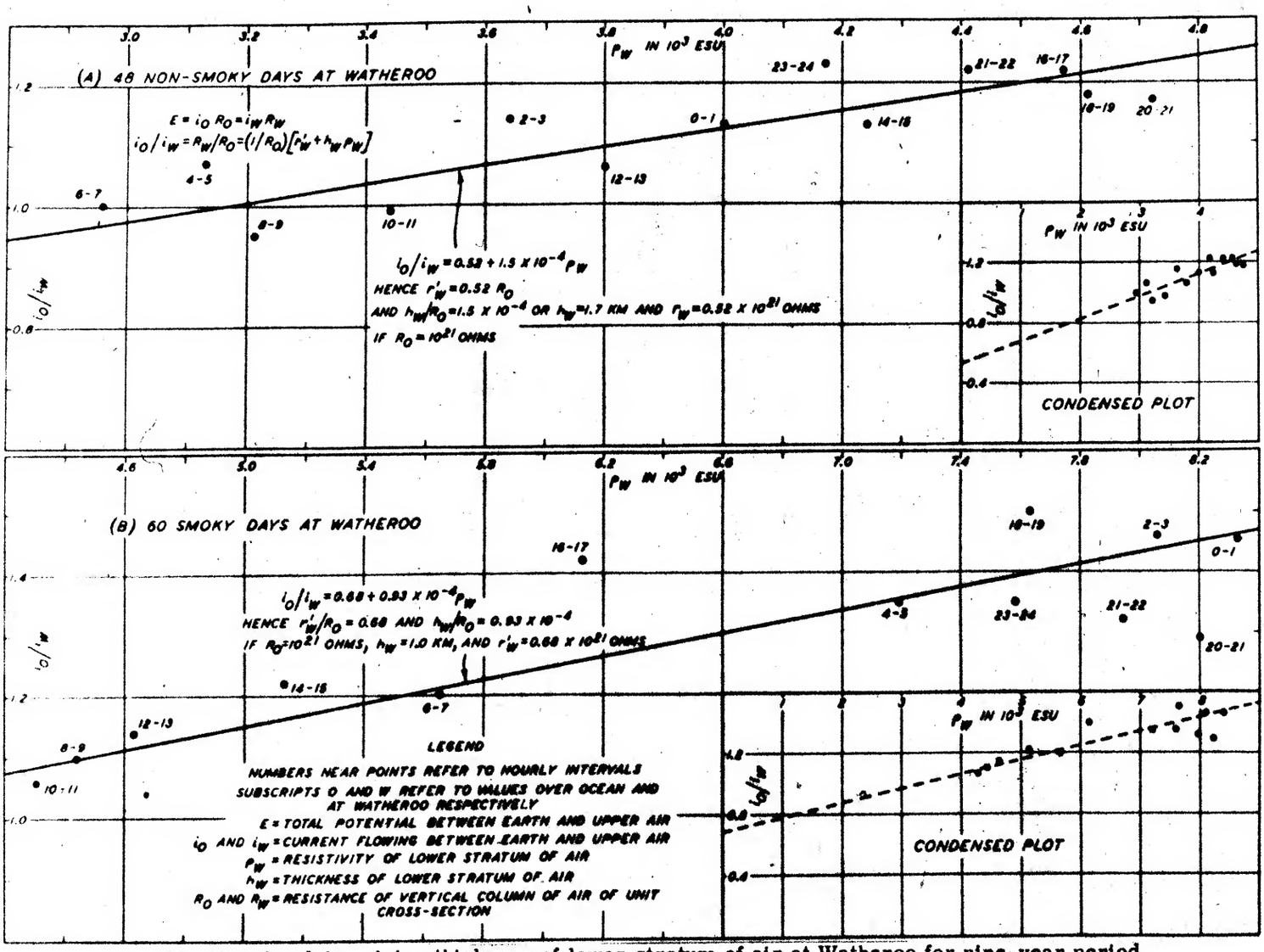


Fig. 22. Plot for determining thickness of lower stratum of air at Watheroo for nine-year period, February, 1926-1934

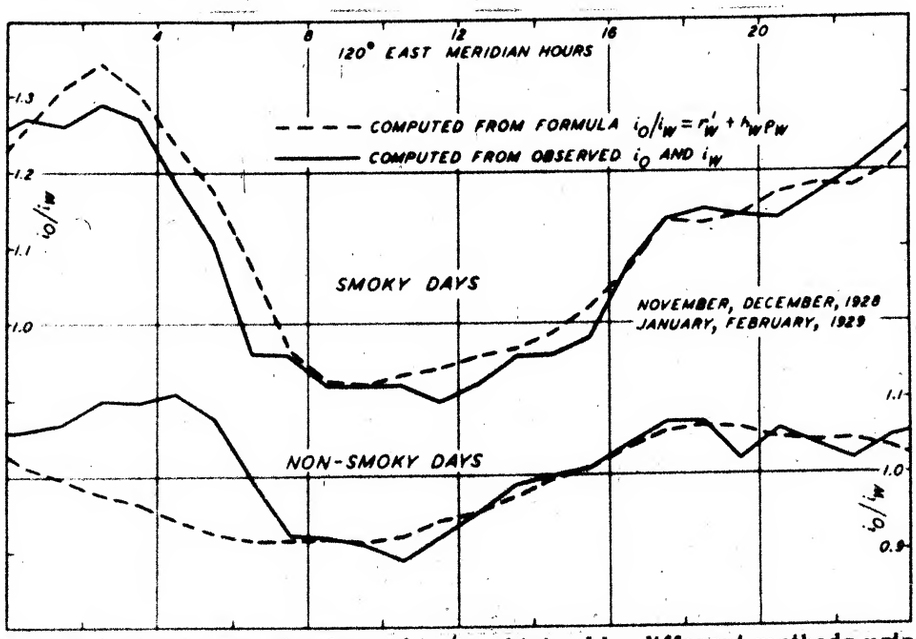


Fig. 23. Comparison of values of i_O/i_W obtained by different methods using simultaneous ocean and Watheroo data, November and December, 1928, and January and February, 1929

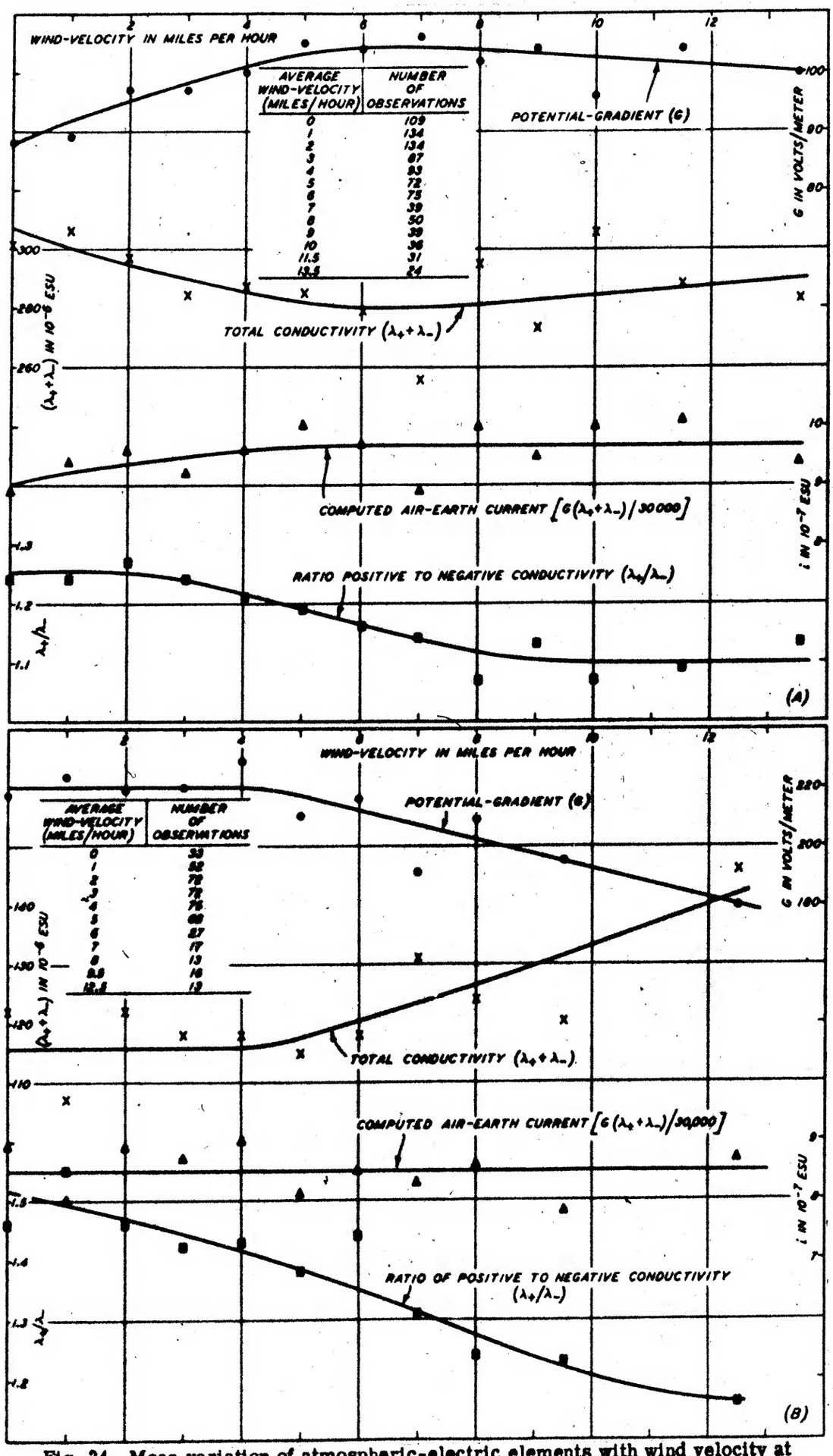


Fig. 24. Mean variation of atmospheric-electric elements with wind velocity at Watheroo (A) nonsmoky and (B) smoky days, intervals 00h-01h and 04h-05h, January to March, 1924-1934

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Table 1. Observatory staff from 1924 to 1934

Year	Observer-in-charge	Observers and aides
1924	G. R. Wait, to May 1 H. F. Johnston, from May 1	J. E. I. Cairns; O. W. Torreson; J. Shearer, to February
1925	H. F. Johnston	J. E. I. Cairns; O. W. Torreson
1926	H. F. Johnston	J. E. I. Cairns; F. W. Wood; O. W. Torreson, to May 31; J. W. H. Lugg, during university holidays
1927	H. F. Johnston	J. E. I. Cairns; F. W. Wood; S. E. Coalstad, during university holidays
1928	H. F. Johnston	J. E. I. Cairns, to Aug. 9; F. W. Wood; G. Builder, from Aug. 13; V. R. Brown, S. E. Coalstad, G. A. McIntyre, during university holidays
1929	H. F. Johnston, to Nov. 22 F. W. Wood, from Nov. 22	F. W. Wood, to Nov. 22; G. Builder; S. E. Coalstad, G. R. W. Meadley, H. D. Poole, during university holidays
1930	F. W. Wood, to Apr. 19 W. C. Parkinson, from Apr. 19	F. W. Wood, from Apr. 19; G. Builder, to Aug. 18; A. A. J. Crowne, from Aug. 18; R. G. Curedale, from Sep. 29; S. E. Coalstad, G. P. Falls, during university holidays
1931	W. C. Parkinson	F. W. Wood; R. G. Curedale; A. A. J. Crowne, to Dec. 31
1932	W. C. Parkinson	F. W. Wood; R. G. Curedale; W. Culmsee, from Jan. 1
1933	W. C. Parkinson, to Dec. 6 A. D. Ross, from Dec. 6	W. Culmsee; R. G. Curedale; J. J. Hogan, from Jan. 19
1934	A. D. Ross, to Mar. 1 W. C. Parkinson, from Mar. 1	W. Culmsee; J. J. Hogan; R. G. Curedale, to Aug. 30

Table 2. Total monthly rainfall (inches) and days on which rain fell, Watheroo Magnetic Observatory, 1924-1934

Month	Year											
	1924		1925		1926		1927		1928		1929	
	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches
Jan	3	0.02	6	0.72	4	0.06	3	0.03	8	0.67	1	0.54
Feb	3	0.14	7	0.69	5	0.16	3	0.24	1	0.00	6	2.59
Mar	4	0.06	5	0.14	8	0.50	13	3.74	5	0.16	5	0.40
Apr	2	0.05	7	0.14	18	2.18	5	0.35	6	0.57	3	0.02
May	15	2.17	17	1.89	15	2.04	9	1.26	9	1.45	18	3.57
Jun	15	2.38	14	3.06	15	2.81	11	3.89	11	1.29	15	5.16
Jul	13	2.04	14	2.66	23	4.85	16	2.53	19	3.97	17	2.61
Aug	13	3.05	7	0.42	19	2.52	19	1.26	17	1.76	13	1.91
Sep	13	1.03	10	2.01	10	1.44	13	1.26	14	1.38	8	0.53
Oct	16	2.00	18	0.49	11	1.49	10	0.61	7	0.69	11	0.57
Nov	11	0.46	10	0.24	10	1.63	2	0.06	2	0.06	7	0.65
Dec	1	0.05	8	2.00	3	0.01	6	0.23	7	2.40	4	0.03
Totals	109	13.45	123	14.46	141	19.69	110	15.46	106	14.40	108	18.58

Month	Year											
	1930		1931		1932		1933		1934		Total	
	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches
Jan	0	0.00	1	0.00	7	0.36	3	0.06	8	2.03	44	4.49
Feb	1	0.00	1	0.03	1	0.00	2	0.15	2	0.11	32	4.11
Mar	8	0.75	3	0.09	5	4.05	7	0.17	11	6.48	74	16.54
Apr	11	1.07	8	0.57	10	1.42	3	0.36	8	3.37	81	10.10
May	11	0.56	11	4.49	13	2.31	14	3.11	9	0.94	141	23.79
Jun	20	6.62	10	1.93	12	1.79	14	5.99	14	2.44	151	37.36
Jul	18	3.62	21	4.20	18	3.05	12	1.73	13	2.84	184	34.10
Aug	23	1.75	17	3.44	18	5.56	11	1.91	13	1.87	170	25.45
Sep	14	0.93	17	2.04	8	0.73	8	1.32	16	0.95	131	13.62
Oct	11	1.42	9	0.49	12	1.99	11	1.25	7	0.17	123	11.17
Nov	8	0.21	1	0.12	1	0.01	5	0.09	5	0.14	62	3.67
Dec	3	0.09	7	0.67	3	0.08	1	0.23	5	0.10	48	5.89
Totals	128	17.02	106	18.07	108	21.35	91	16.37	111	21.44	1241	190.29

Table 3. Factors for reduction of recorded volts to volts per meter, Watheroo Magnetic Observatory, 1924-1934

Date	Observed factor	Average factor	Adopted factor
1924			
Jan 4	1.31		
Jan 9	1.32		
Jan 10	1.25		
Jan 11	1.38		
Mar 25	1.27		
May 26	1.43		
Jul 28	1.35		
Oct 7	1.28		
Dec 4	1.22	1.31	1.31
1925			
Jan 5	1.29		
Feb 2	1.33		
Mar 16	1.32		
Apr 6	1.30	1.31	1.31
Apr 24[a]	1.13		
May 4	1.18		
May 9	1.15		
May 11	1.12		
Jun 10	1.16		
Jul 3	1.17		
Aug 4	1.19		
Aug 31	1.18		
Sep 18	1.16		
Nov 17	1.14		
Dec 11	1.11	1.15	1.16
1926			
Jan 21	1.14		
Jan 22	1.15		
Feb 9	1.14		
Mar 1	1.16		
Apr 29 } Apr 30 }	1.15		
Jun 7	1.19		
Jul 13	1.17		
Aug 3	1.18	1.16	1.16
1927			
Jan 24	1.16		
Apr 7	1.15		
Jul 15	1.16		
Aug 9	1.12		
Sep 23	1.12		
Sep 24	1.16		
Nov 26	1.10		
Nov 28	1.06		
Dec 1	1.10		
Dec 2	1.14		
Dec 5	1.12		
Dec 8	1.12	1.13	1.15
1928			
May 1	1.15		
May 2	1.21		
May 18	1.16		
Oct 2	1.12		
Oct 3	1.06	1.14	1.14
1929			
Jan 24	1.13		
Jan 25	1.11		
Jan 29	1.08		
Feb 8	1.11		
Mar 8	1.12		
May 29	1.14		
Jun 10	1.06		
1929			
Jul 5	1.10		
Nov 18	1.08		
Nov 27	1.11	1.10	1.13
1930			
Jan 24	1.13		
Feb 27	1.10		
Mar 31	1.11		
May 30	1.13		
Jul 21	1.14		
Sep 1	1.09		
Sep 23	1.10		
Oct 20	1.11		
Dec 29	1.12	1.11	1.12
1931			
Jan 23	1.14		
Feb 2	1.09		
Mar 23	1.11		
May 18	1.13		
Jul 27	1.16		
Sep 25	1.09		
Oct 12	1.09		
Nov 23	1.32[b]	1.12	1.11
1932			
Feb 1	1.09		
Mar 7	1.08		
Apr 15	1.12		
May 16	1.09		
Jun 20	1.11		
Jul 28	1.13		
Aug 19	1.11		
Sep 14	1.10		
Nov 16	1.12		
Dec 14	1.10		
Dec 30	1.10	1.10	1.11
1933			
Jan 19	1.10		
Feb 15	1.09		
Mar 13	1.08		
Apr 11	1.11		
May 15	1.14		
Jun 16	1.14		
Jul 19	1.09		
Aug 16	1.11		
Sep 11	1.08		
Oct 25	1.00		
Oct 30	1.06		
Nov 16	1.13		
Dec 12	1.13	1.10	1.11
1934			
Jan 17	1.11		
Feb 19	1.08		
Feb 28	1.10		
Mar 14	1.13		
Apr 23	1.13		
May 23	1.09		
Jun 15	1.11		
Jul 18	1.11		
Aug 15	1.13		
Sep 20	1.11		
Oct 17	1.06		
Nov 15	1.10		
Dec 20	1.07	1.10	1.10

[a] Removed radio mast and antenna, April 24, 1925
[b] Omitted from average

Table 4. Nuclei-concentrations at Watheroo Magnetic Observatory, 1924, 1931, 1933, and 1934

Day	1924								1931			
	February				March		April		September			
	Hour	N × 10^{-3} per cc	Hour	N × 10^{-3} per cc	Hour	N × 10^{-3} per cc	Hour	N × 10^{-3} per cc	Hour	N × 10^{-3} per cc	Hour	N × 10^{-3} per cc
1					8.5	7.07	8.6	1.05				
2					8.8	6.10	8.7	2.15				
3					8.6	5.20	8.8	1.60				
4					8.7	5.85	8.4	2.40				
5					8.6	20.92	8.8	1.05				
6					8.4	3.66	8.8	0.30				
7					8.6	3.42	8.7	2.20	10.2	2.27	15.5	1.13
8					8.5	4.13	8.7	1.35	10.8	1.24	15.5	1.13
9					9.2	3.50	9.6	1.00	9.4	0.44	16.0	0.27
10					8.6	1.20	9.8	1.05	10.9	0.40	16.3	1.13
11					8.5	1.10	9.0	3.40	9.3	0.72	16.2	0.53
12					8.7	1.65	9.4	1.60	9.2	1.39		
13					8.6	1.15	9.0	1.65				
14					8.4	2.60	8.6	1.35				
15					8.6	1.65	8.6	1.60				
16					8.8	2.37	8.5	1.80				
17					8.6	1.05	8.6	4.70				
18					8.6	2.45	8.6	6.30				
19					8.6	1.55	8.6	2.80				
20					8.9	4.00	8.8	0.65				
21					9.0	7.20	8.6	0.70				
22	....	.....	13.0	4.50	8.6	3.65	8.7	2.70				
23	8.8	1.55	.....	.....	8.6	6.60	8.7	1.55				
24	10.8	8.60	17.2	18.30	8.4	1.40	8.7	0.75				
25	8.9	41.40	19.0	43.80	8.3	3.40	8.8	1.35				
26	8.7	27.30	.....	.....	8.8	2.25	8.7	1.55				
27	8.8	13.45	.....	.....	8.4	2.20	9.2	3.75				
28	8.8	30.90	.....	.....	8.6	1.25	8.4	1.40				
29	8.4	27.00	.....	.....	8.5	2.00	9.4	0.90				
30					8.8	1.15	9.5	2.45				
31					8.2	0.65						
Sum		.....		.....		112.37		57.10		.....		.....
Mean		.....		.....		3.62		1.90		.....		.....

Table 4. Nuclei-concentrations at Watheroo Magnetic Observatory, 1924, 1931, 1933, and 1934--Continued

Day	1931						1933					
	October				April		May		June		July	
	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc
					m		h m		h m		h m	
1									9 15	0.42	9 10	0.32
2									9 15	0.38	9 30	1.25
3									9 15	0.80	9 35	0.44
4							9 10	1.10	9 15	0.48	9 10	0.28
5							9 15	1.20	9 10	0.38	9 30	0.29
6					9 20	1.25	9 10	1.40	9 30	0.40	9 25	0.58
7					9 15	1.05	10 10	1.02	9 10	0.38	9 25	0.71
8					9 15	0.75	9 05	1.70	9 10	0.55	9 20	0.79
9					9 25	0.36	9 10	1.55	9 10	0.36	9 30	0.48
10					9 25	1.70	9 10	1.35	9 30	0.41	9 10	0.31
11					9 10	1.30	9 10	0.49	9 30	0.20	9 10	0.22
12			16.3	1.20	9 20	3.25	9 10	0.72	9 30	0.18	9 10	0.60
13	9.4	1.25	.....	.....			9 10	2.15	9 10	0.21	9 25	0.36
14	9.6	0.70	16.3	0.50			9 25	1.15	9 15	0.19	9 10	0.40
15	9.5	0.20	16.1	0.17			9 25	2.35	9 20	1.10	9 10	1.15
16	9.6	0.85	.....	.....			9 10	1.50	9 30	1.90	9 10	1.25
17	9.7	1.45	16.1	3.20			9 10	0.85	9 10	2.55	9 10	0.90
18	9.8	1.00	.....	....			9 10	1.15	9 10	1.50	9 30	0.34
19	9.2	0.65	16.1	2.85			9 10	0.70	8 45	1.65	9 10	0.78
20	9.7	1.25	16.7	0.70			9 10	0.32	9 10	2.80	9 10	2.45
21	9.5	0.65	16.0	0.75			9 20	0.70	9 10	0.59	9 30	5.50
22	9.3	1.10	16.3	0.70			9 25	0.50	9 10	0.70	9 30	0.36
23	9.3	1.00	.....	.....			9 30	0.31	9 10	1.05	9 30	3.35
24	9.3	1.40	.....	.....			9 35	0.54	9 10	1.00	9 30	0.99
25	....	.....	.....	.....			9 35	0.37	9 10	1.40	9 10	1.25
26	9.3	0.65	16.2	0.55			9 25	0.40	9 10	0.74	9 25	0.36
27	....	.....	14.5	0.30			9 30	0.27	9 25	0.14	9 25	0.25
28	....	.....	14.2	0.70			9 10	0.26	9 15	0.21	9 25	0.35
29	....	.....	16.5	1.65			9 15	1.40	9 10	0.41	9 25	0.56
30							9 40	2.45	9 10	0.54	9 25	1.55
31							9 15	2.01			9 10	1.50
Sum		.....		.....		.....		29.91		23.62		29.92
Mean		.....		.....		.....		1.07		0.79		0.97

Table 4. Nuclei-concentrations at Watheroo Magnetic Observatory, 1924, 1931, 1933, and 1934--Continued

Day	1933									
	August		September		October		November		December	
	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc
	h m		h m		h m		h m		h m	
1	9 10	2.55	9 10	1.50	9 25	0.41	9 10	0.35	9 10	0.34
2	9 10	1.20	9 10	4.30	9 15	0.50	9 10	0.64	9 10	1.15
3	9 10	1.55	9 10	1.55	9 10	0.56	9 10	0.66	9 20	0.42
4	9 10	0.66	9 10	2.65	9 10	0.18	9 10	2.65	9 20	1.50
5	9 10	1.19	9 10	1.25	9 15	0.23	9 10	1.45	9 10	0.41
6	9 30	0.28	9 10	0.31	9 20	0.27	9 10	0.90	9 20	0.40
7	9 10	0.49	9 10	1.15	9 25	0.35	9 20	0.55	9 15	0.69
8	9 20	0.36	9 10	1.95	9 20	0.82	9 10	0.39	9 20	0.35
9	9 10	1.18	9 10	0.75	9 10	1.02	9 30	0.56	9 20	0.54
10	9 10	2.50	9 25	0.85	9 10	0.95	9 10	0.50	9 20	0.54
11	9 10	1.50	9 10	3.35	9 10	0.66	9 10	0.41	9 10	0.86
12	9 10	1.00	9 10	5.45	9 10	0.80	9 30	0.40	9 20	0.81
13	9 20	0.61	9 10	1.25	9 10	1.80	9 20	0.61	9 25	0.61
14	9 25	0.75	9 20	0.95	9 10	0.42	9 15	0.40	9 10	0.64
15	9 10	2.00	9 15	0.48	9 10	0.42	9 15	2.05	9 10	0.49
16	9 10	1.05	9 15	0.31	9 10	0.85	9 20	1.65	9 10	1.00
17	9 25	0.72	9 18	0.29	9 20	0.29	9 20	0.68	9 20	1.25
18	9 25	0.37	9 10	0.46	9 30	0.34	9 20	0.80	9 20	1.45
19	9 15	0.33	9 10	1.05	9 10	0.30	9 10	3.25	9 20	0.66
20	9 15	0.89	9 10	3.15	9 10	0.51	9 10	1.60	9 20	0.68
21	9 10	0.65	9 10	0.44	9 10	0.35	9 10	0.69	9 20	0.58
22	9 10	2.30	9 10	2.45	9 20	0.36	9 10	0.65	9 10	0.92
23	9 10	12.80	9 10	1.55	9 10	0.85	9 10	0.72	9 10	0.86
24	9 10	0.56	9 20	1.95	9 10	0.49	9 10	1.09	9 20	0.58
25	9 10	0.41	9 10	1.20	9 15	1.80	9 10	0.64	9 20	0.68
26	9 10	0.26	9 10	1.20	9 15	1.50	9 10	11.00	9 50	0.48
27	9 10	0.32	9 10	1.00	9 15	0.49	9 10	0.41	9 20	0.44
28	9 10	0.90	9 10	0.90	9 15	1.50	9 15	0.61	9 10	0.75
29	9 35	1.20	9 10	1.40	9 10	0.59	9 10	0.39	9 20	0.58
30	8 50	0.32	9 10	0.65	9 10	0.28	9 10	0.31	9 20	0.76
31	9 15	0.44			9 10	0.72			9 30	0.60
Sum		41.34		45.74		20.61		37.01		22.02
Mean		1.33		1.52		0.67		1.23		0.71

Table 4. Nuclei-concentrations at Watheroo Magnetic Observatory, 1924, 1931, 1933, and 1934--Continued

Day	1934											
	January		February		March		April		May		June	
	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc
	h m		h m		h m		h m		h m		h m	
1	9 20	0.58	9 10	1.95	9 20	0.49	9 20	2.90	9 05	1.30	9 10	0.81
2	9 10	0.51	9 10	2.95	9 20	0.31	9 20	1.08	9 20	1.45	9 10	2.50
3	9 10	0.45	9 10	2.40	9 20	0.10	9 20	1.70	9 20	0.75	9 20	0.85
4	9 10	0.51	9 20	2.50	9 20	0.56	9 20	1.70	9 20	1.60	9 40	0.44
5	9 10	1.35	9 20	0.65	9 20	0.34	9 20	1.25	9 20	1.35	9 10	1.95
6	9 10	0.75	9 30	1.70	9 10	2.90	9 20	1.20	9 10	1.25	9 05	0.95
7	9 10	0.40	9 20	1.05	9 10	2.00	9 20	1.65	9 40	1.20	9 05	1.50
8	9 10	2.65	9 20	0.25	9 30	0.79	9 35	1.35	9 10	0.61	9 05	0.84
9	9 20	1.25	9 20	1.55	9 40	0.50	9 10	0.08	9 05	0.46	9 05	0.50
10	9 10	2.95	9 20	1.45	9 05	0.49	9 20	0.75	9 05	0.44	9 10	0.36
11	9 10	0.55	9 10	1.65	9 15	0.95	9 10	0.70	9 05	2.45	9 10	0.34
12	9 10	1.95	9 10	1.80	9 10	1.70	9 10	14.2	9 05	1.30	9 10	1.00
13	9 10	0.75	9 25	0.78	9 20	0.85	9 20	1.35	9 20	1.35	9 10	0.36
14	9 20	0.31	9 20	3.85	9 20	2.35	9 20	1.05	9 10	0.96	9 10	0.24
15	9 20	1.60	9 20	0.69	9 10	1.05	9 20	1.65	9 20	1.40	9 10	1.45
16	9 10	0.90	9 25	1.60	9 10	1.15	9 10	0.85	9 20	1.05	9 10	0.45
17	9 10	0.45	9 25	1.90	9 10	2.00	9 10	1.60	9 10	0.80	9 05	2.15
18	9 10	0.45	9 10	1.15	9 20	1.75	9 30	3.65	9 10	0.69	9 07	0.85
19	9 20	0.68	9 10	0.31	9 20	3.90	9 05	1.60	9 10	1.25	9 10	0.24
20	9 20	0.55	9 20	0.38	9 20	0.54	9 08	0.90	9 05	0.80	9 10	0.60
21	9 10	0.31	9 10	1.95	9 20	1.45	9 05	4.40	9 20	0.61	9 08	1.05
22	9 10	0.65	9 10	0.78	9 20	2.15	9 20	5.25	9 05	0.44	9 05	0.52
23	9 10	1.30	9 10	1.50	9 20	1.80	9 20	3.05	9 05	1.00	9 05	0.70
24	9 10	1.05	9 10	2.65	9 20	1.65	9 20	1.35	9 05	0.34	9 10	0.56
25	9 10	0.44	9 20	0.45	9 10	18.5	9 10	2.10	9 05	0.16	9 10	0.46
26	9 10	0.44	9 20	1.50	9 10	3.70	9 10	1.40	9 05	1.35	9 25	1.15
27	9 10	0.56	9 10	0.72	9 20	0.99	9 10	13.4	9 05	2.25	9 10	2.15
28	9 10	2.10	9 20	0.52	9 10	1.30	9 10	4.80	9 10	0.60	9 10	0.80
29	9 10	2.50			9 10	0.90	9 20	1.80	9 10	2.05	9 10	0.85
30	9 20	1.80			9 10	0.74	9 20	1.85	9 10	2.05	9 10	0.18
31	9 10	0.60			9 10	9.50			9 10	0.46		
Sum		31.34		40.63		50.75		55.77		33.77		26.80
Mean		1.01		1.45		1.64		1.86		1.09		0.89

Table 4. Nuclei-concentrations at Watheroo Magnetic Observatory, 1924, 1931, 1933, and 1934--Concluded

Day	1934											
	July		August		September		October		November		December	
	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc	Hour	$N \times 10^{-3}$ per cc
	h m		h m		h m		h m		h m		h m	
1	9 20	0.42	9 10	0.18	9 40	1.20	9 10	1.70	9 10	3.50	9 00	1.65
2	9 05	0.85	9 10	0.70	9 10	0.80	9 05	0.36	9 10	2.80	9 05	1.25
3	9 05	1.60	9 10	0.90	9 05	1.25	9 10	9.00	9 10	2.10	9 10	0.45
4	9 05	2.20	9 10	1.25	9 25	1.60	9 10	1.45	9 10	1.40	9 10	0.90
5	9 05	0.30	9 20	0.64	9 05	1.30	9 10	0.35	9 25	1.45	9 10	0.16
6	9 05	0.41	9 20	0.38	9 07	1.20	9 10	1.10	9 10	0.85	9 10	1.20
7	9 05	0.38	9 20	0.31	9 03	0.95	9 10	2.60	9 08	0.45	9 10	1.00
8	9 08	0.28	9 20	0.46	9 25	1.15	9 05	1.75	9 00	5.20	9 10	0.85
9	9 05	0.48	9 20	0.40	9 08	1.85	9 08	2.55	9 05	4.05	9 10	0.85
10	9 10	0.31	9 20	0.85	9 10	0.24	9 05	0.95	9 10	1.90	9 05	0.60
11	9 05	0.50	9 20	0.49	9 10	0.40	9 05	0.90	9 25	2.65	9 05	0.36
12	9 05	1.90	9 20	0.44	9 10	0.44	9 05	1.70	9 10	0.65	9 05	0.24
13	9 10	0.24	9 20	0.95	9 10	0.56	9 05	1.10	9 10	1.00	9 05	0.75
14	9 10	0.19	9 10	0.29	9 05	0.80	9 30	4.10	9 10	3.65	9 05	0.40
15	9 20	1.25	9 10	3.30	9 10	0.50	9 05	2.85	9 10	2.10	9 05	0.42
16	9 20	0.68	9 20	1.55	9 22	0.24	9 10	2.35	9 10	0.65	9 20	1.55
17	9 45	1.15	9 20	0.70	9 05	0.18	9 10	1.50	9 10	0.51	9 05	0.36
18	9 20	1.85	9 20	1.15	9 05	2.25	9 02	1.15	9 10	2.65	9 20	2.50
19	9 20	0.78	9 20	4.70	9 20	1.20	9 05	1.85	9 10	1.50	9 15	1.05
20	9 20	0.46	9 10	1.50	9 05	2.30	9 05	2.05	9 05	1.10	9 10	1.35
21	9 20	0.34	9 20	1.15	9 25	2.40	9 05	1.15	9 05	0.90	9 10	0.45
22	9 20	0.28	9 10	1.10	9 25	0.80	9 05	0.34	9 05	0.65	9 10	1.05
23	9 20	1.00	9 10	0.85	9 10	0.52	9 05	0.70	9 05	0.39	9 05	0.38
24	9 10	1.15	9 10	0.48	9 10	0.15	9 10	1.85	9 05	0.66	9 05	0.21
25	9 20	0.75	9 10	0.21	9 10	0.38	9 10	1.75	9 05	1.60	9 05	0.15
26	9 05	1.00	9 20	0.11	9 07	1.10	9 10	0.45	9 10	0.39	9 20	0.14
27	9 05	1.80	9 20	0.30	9 05	0.32	9 10	1.95	9 10	0.29	9 05	0.59
28	9 05	2.25	9 20	0.90	9 10	0.38	9 10	0.60	9 06	2.00	9 05	1.10
29	9 10	0.20	9 20	2.65	9 10	0.41	9 10	1.05	9 20	1.45	9 08	0.46
30	9 10	0.85	9 20	1.00	9 20	1.05	9 10	1.35	9 25	1.55	9 20	1.10
31	9 20	1.20	9 20	0.85			9 10	1.60			9 20	0.36
Sum		27.05		30.74		30.97		55.45		50.04		23.88
Mean		0.87		0.99		1.03		1.79		1.67		0.77

Table 5. Computations of N_A and q from application of Scholz's theory of electrode effect atmospheric-electric data for Watheroo Magnetic Observatory, 1924-1934

Group of days	Period					
	00h-06h		07h-18h		19h-24h	
	N_A per cc	q in ion-pairs per cc/sec	N_A per cc	q in ion-pairs per cc/sec	N_A per cc	q in ion-pairs per cc/sec
November-March, selected (nonsmoky) days	4120	9.4	6530	13.1	4460	7.9
November-March, smoky days	5310	8.7	6070	11.3	5730	7.8
May-August, selected days	5350	10.4	4530	12.9	3100	8.3

TABLE 6

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64	76	81	125	141	159	178	175	202		–
9	✓			178	178	187	202	212	200	132	73	61	61	[62]	62	71	62	65	77	81	99	159	164	208	297	253	230	141	0
10	✓			240	226	266	261	208	188	206	183	164	128	108	111	112	111	115	111	111	141	155	137	151	124	117	117	158	0
11				137	188	208	224	242	188	101	75	67	—	—	81	84	86	94	99	92	101	101	202	289	337	354	284		0
12				222	207	167	118	77	61	53	65	77	75	75	79	79	90	86	90	—	240	200	119	N 65	54	137	N153		1
13																													
14				—	—	—	—	—	—	—	—	—	—	—	—	86	88	84	75	71	—	137	168	122	104	106	94		–
15	✓	✓	✓	122	106	92	97	90	79	88	77	60	65	67	65	56	62	67	79	81	97	90	101	111	113	108	111	87	0
16	✓			104	94	77	75	79	77	77	81	77	77	79	79	77	77	84	86	104	106	108	111	115	122	128	117	92	0
17	✓	✓	✓	~~113~~	111	115	135	130	126	122	130	148	141	124	122	122	108	108	108	130	122	108	130	166	197	170	166	131	0
18	✓	✓		141	126	128	130	139	128	111	94	84	81	77	77	77	79	81	86	90	122	179	253	331	240	210	195	136	0
19	✓	✓		193	175	170	148	92	81	77	77	81	81	77	77	81	81	81	77	77	79	90	92	86	186	217	177	111	0
20	✓			143	119	122	99	75	60	62	65	62	75	79	75	81	81	81	92	90	79	104	86	104	92	77	73	86	0
21	✓			81	75	71	60	56	54	54	62	60	60	65	65	60	62	71	106	181	175	157	151	197	175	153	141	100	0
22	✓			159	173	235	N111	108	106	130	143	143	141	143	148	157	166	148	130	128	143	177	217	144	193	173	162	153	1
23	✓			137	159	221	362	438	413	266	108	94	86	94	92	99	113	124	137	126	135	273	306	360	331	304	302	212	0
24	✓			322	297	206	108	90	88	84	84	81	84	81	81	79	79	77	79	81	84	97	104	101	106	92	92	112	0
25	✓			81	79	111	113	119	111	99	86	62	51	56	71	77	84	86	81	81	84	94	99	99	122	195	148	95	0
26	✓			104	90	86	90	88	84	81	81	79	79	79	81	84	90	99	101	97	99	104	86	84	90	97	106	90	0
27	✓			90	84	84	84	81	79	84	90	81	75	84	84	84	84	86	90	108	141	128	130	128	193	217	259	110	0
28				—	—	—	—	—	—	—	289	310	248	219	173	137	132	128	117	117	113	113	151	175	186	188	200		–
29	✓			235	193	195	206	215	210	139	151	155	162	151	148	137	113	130	117	111	97	104	119	173	195	148	151	156	0
30	✓			162	132	113	111	90	56	71	151	213	261	246	200	177	177	170	168	193	242	251	259	204	181	155	144	172	0
31	✓			119	117	111	94	84	90	90	124	137	159	197	208	202	206	206	213	233	235	257	271	240	253	257	244	181	0
MEANS * 18 DAYS				151	141	144	138	133	124	110	103	102	104	104	103	102	102	104	108	117	127	146	156	167	178	171	163	129	
MEANS † 4 DAYS				142	130	126	128	113	104	100	94	93	92	86	85	84	82	84	88	94	105	117	144	174	184	176	162	116	
MEANS ‡ 2 DAYS				118	109	104	116	110	102	105	104	104	103	96	94	89	85	88	94	106	110	99	116	118	113	117	106	104	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 7

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1924

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR. VEL.	08h–09h DIR. VEL.	14h–15h DIR. VEL.	20h–21h DIR. VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	739.8	23.4	43	28.1	9.5			Lt SSW brz at 9h				CiSt	1- 3		..	Dew early
2	738.9	20.8	59	28.8	13.0			Lt WSW airs at 9h				FrCu	1- 3		..	Dew early
3	738.3	21.0	64	27.7	11.1			Lt S brz at 9h				Ci; Cu; FrCu	1- 3		..	
4	739.8	18.0	51	26.4	12.6			Lt SE brz at 9h				CiSt; Cu	4- 6		..	
5	743.3	19.9	42	28.1	11.5			Gtl SE brz at 9h					..		..	
6	743.1	25.3	28	33.7	11.5			Lt ENE brz at 9h					..		..	Air smoky in S and SE
7	742.1	28.4	24	37.9	12.0			SE to SW brzs					0		0	Dew early
8	741.1	28.5	32	38.3	15.7			E in am, SW in pm					0		0	
9	739.9	28.7	34	38.3	13.6			Lt SE to SW airs and brzs					0		0	Smoky in evening
10	740.8	28.4	31	35.5	14.0			S to SW					0		0	Air smoky
11	740.5	28.2	40	38.8	15.2			Gtl ESE brz at 9h					..		..	
12	736.8	34.5	21	43.7	17.7			NE, W, and SW winds					0		0	Smoky in late pm
13	736.6	21.8	58	28.4	16.1			WSW to W				FrCu	1- 3	FrCu	1- 3	Cloudy at night; rain at 23h
14	737.7	21.6	53	26.4	13.4	T		W				Cu; FrCu	6- 8	StCu; NbSt	6-10	Rain in pm
15	739.0	21.3	62	24.8	11.0	0.01		WSW to W				St; Nb	9-10	St; Nb	9-10	Few drops rain in pm
16	741.3	19.3	51	29.5	7.1	0.01		Lt to gtl SW to W brzs					0		0	
17	741.1	19.4	52	28.9	9.2			S to SW					0		0	Dew early
18	741.5	18.8	48	26.1	10.6			Lt SE brz in am, SW in pm				Ci; CiSt; FrCu	1- 3	Ci; CiSt	1- 3	
19	743.0	19.5	43	30.7	9.3			Lt SE brz in am, SW in pm				Ci; CiSt	10- 1		0	
20	740.5	27.8	19	37.1	11.8			Lt to gtl ENE brz at 9h					..		..	
21	736.7	32.4	14	41.1	18.1			Gtl NNE brz at 9h					..		..	
22	740.4	21.1	60	31.6	14.3			Lt SSW brz at 9h					..		..	Air very smoky at 9h5; much smoke in pm
23	741.6	22.7	37	31.4	11.6			Lt to gtl SSE brz at 9h					..		..	Dew early
24	743.8	20.9	46	31.1	14.0			Mod ESE brz at 9h					..		..	
25	743.7	22.0	40	32.2	13.0			Mod E brz at 9h				CiSt	1- 3		..	
26	741.4	26.2	25	36.4	17.4			Lt to gtl NE brz at 9h					..		..	
27	737.3	31.5	16	40.1	19.6			Mod NE brz, changing to SW				Ci	7- 8	Ci	7- 8	
28	739.7	23.9	62	32.8	13.5			SW				Ci; CiSt	1- 3		0	Dew early; hazy in am, perhaps with smoke
29	740.5	21.4	61	31.2	13.4			S				CiSt	7-10	CiSt	7-10	Dew early; very hazy all day, perhaps smoky
30	740.7	20.5	58	29.8	11.6			S to SW				CiSt; CiCu	7- 8	CiSt; CiCu	7- 8	Very hazy with smoke
31	742.3	19.8	57	30.7	8.1			SW to SE					0		0	Dew early; heavy smoke haze
SUM	–					0.02										
MEAN	740.4	23.8	43	32.4	12.9											

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (

TABLE 8

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				125	125	119	106	92	96	106	114	120	130	131	130	137	134	127	127	133	137	143	148	147	143	145	150		–
2				143	130	133	144	139	145	137	—	—	—	—	—	—	—	—	127	—	144	145	145	148	151	150	151		–
3				148	154	139	136	139	143	141	137	139	145	145	151	161	160	162	153	150	157	157	151	139	127	116	113		–
4				124	123	—	—	—	—	—	(128)	143	151	154	154	153	154	160	154	123	[106	92	70	83	—	75	67]		–
5				[67	66	67	80]	109	128	123	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		–
6																													
7				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	[137	66	67	69	58	49	42]		–
8	✓			[49	47	52	78	131	193]	200	203	216	224	207	185	174	167	158	161	145	136	[97	75	77	84	94	70]	134	–
9				[67	69	72	67	70	70	103	168]	196	(202	196	172)	154	151	143	125	117	97	[55]	—	—	—	—	—		0
10				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	58	58	63	63	66	73	70		0
11				65	58	57	54	57	83	118	221	232	221	188	182	193	199	190	185	172	154	143	[103	42	43	49	55]		0
12				[60	69	97]	144	214	277	297	274	207	182	165	150	139	125	128	125	—	[32	52	139	134	83	55]	—		1
13				—	—	—	—	—	—	—	—	123	124	128	125	120	116	123	114	121	111	—	—	—	—	—	—		–
14				—	—	—	—	—	—	—	—	—	—	—	—	111	106	—	—	—	—	67	72	111	121	128	131		–
15	✓	✓		109	114	168	147	137	144	137	127	128	144	143	143	141	143	137	125	125	125	123	124	120	116	128	139	133	0
16				148	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(154)	124	114	109	107	111	114	109	116		0
17	✓	✓		125	128	137	114	111	107	107	89	78	89	99	111	114	120	130	134	92	97	120	124	97	84	107	114	110	0
18	✓	✓		125	128	114	94	84	93	109	130	150	150	148	153	154	165	176	169	116	73	[34	22	22	42	65	77]	108	0
19	✓	✓		[80	81	80	96]	147	179	176	182	183	185	199	199	185	174	161	168	171	161	151	157	165	[111	72	83]	148	0
20				[86	97	117	171]	231	277	283	252	224	203	182	172	171	168	165	154	—	—	—	—	—	—	—	—		0
21																													
22																													
23																													
24																													
25																													
26																													
27																													
28																													
29																													
30																													
31																													
MEANS * 5 DAYS				98	100	110	106	122	143	146	146	151	158	159	158	154	154	152	151	130	118	105	100	96	87	93	97	126	
MEANS † 4 DAYS				110	113	125	113	120	131	132	132	135	142	147	152	148	150	151	149	126	114	107	107	101	88	93	103	125	
MEANS ‡ 2 DAYS				117	121	152	130	124	126	122	108	103	116	121	127	128	132	134	130	108	111	122	124	111	118	118	124	122	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 9

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				94	81	78	71	46	54	88	103	103	118	121	—	—	—	—	—	—	—	131	124	114	111	109	108		–
2				108	106	96	96	117	115	114	120	120	121	138	140	141	141	137	134	126	118	115	103	103	106	106	99		–
3				100	73	76	78	73	94	106	115	118	121	128	138	146	149	149	146	—	—	—	—	—	88	91	91		–
4				93	100	103	103	100	99	112	128	138	153	152	152	144	149	159	146	115	[100	85	63	71	52	64	58]		–
5				[46	50	52	59	84]	121	115	—	—	—	—	—	161	164	161	146	146	—	—	—	—	—	—	—	—		–
6				—	—	—	—	—	—	—	273	267	228	217	194	188	182	194	176	164	106	103	[91	37	37	37	37]		–
7				[43	52	52	48	48	56	85	175	304]	370	(373	273	240)	225	205	188	159	[128	52	56	56	45	37	29]		–
8	✓			[24	29	35	58	105	164]	197	207	223	222	213	194	181	170	161	161	143	128	[78	63	64	70	71	52]	126	–
9				[52	50	48	46	46	52	86	161]	197	(205	194	176	153)	152	138	118	109	91	[48	45	48	29	37	35]		0
10				[18	14	16	14	14	18	20	26	41]	56	61	—	—	—	56	59	63	50	48	52	43	54	59	56		0
11				—	—	—	—	—	—	—	219	225	213	176	173	182	197	190	181	164	149	134	[91	29	26	35]	—		0
12				—	—	—	112	169	211	246	246	185	167	149	132	131	108	118	115	—	[26	41	115	115	73	46	43]		1
13				[97	63	45	39	37	37	56	56]	82	103	121	118	123	118	121	112	103	85	91	91	91	91	93	79		–
14				59	66	71	71	79	85	94	100	109	118	109	121	115	103	—	—	—	—	—	37	73	73	78	91		–
15	✓	✓	✓	59	63	84	70	73	82	85	93	118	134	129	134	135	135	124	118	103	91	86	81	82	85	85	93	98	0
16				100	121	128	149	137	135	161	147	155	159	152	159	156	161	162	149	118	112	105	100	103	100	91	86		0
17	✓	✓	✓	73	91	94	91	84	84	90	81	68	76	85	94	103	109	117	121	78	85	106	103	78	59	73	79	88	0
18	✓	✓		85	100	91	85	76	84	102	121	146	147	149	155	158	172	176	164	105	64	[29	20	16	37	52	59]	100	0
19	✓	✓		[56	54	58	61]	131	169	176	182	182	181	197	200	191	179	176	184	181	164	149	138	140	[100	56	68]	141	0
20				[76	82	93	146	207]	249	264	252	228	205	184	182	182	178	179	156	91	[33	41]	59	70	121	164	222		0
21				204	204	210	228	234	244	240	225	194	200	176	172	167	155	115	70	[41	41	52	64	54	59	70]	73		0
22				—	—	—	—	—	—	—	[20	14	13	14	14	16	16	16	16	18	18	18	18	28	28	22	29]		1
23				[26	22	14	7	9	13	33]	103	118	131	111	103	91	71	54	52	64	56	[14	14	18	18	18	22]		0
24				[18	20	37]	121	147	153	155	164	170	170	155	146	155	166	167	166	149	153	155	159	155	152	164	173		0
25				162	156	138	131	114	—	—	—	164	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
26				—	—	—	—	—	—	—	210	191	193	194	197	194	193	176	140	118	135	138	149	150	167	149	149		0
27				194	194	194	205	208	207	200	205	176	188	131	178	172	120	103	93	86	73	86	97	94	[64	70	56]		0
28				[41	50	45	37	31	22	18	22	26	33	48	63]	82	84	93	100	102	90	88	[70	59	61	56	43]		–
29				[37	52	59	52	41	43]	56	59	48	37	41	41	41	45	41	48	73	103	106	100	[61	56]	86	76		0
30				76	79	99	88	103	114	109	63	[52	(31	31	33)	43	50	52	43	26	18	14	26	59	71]	73	82		0
31				97	117	138	149	167	146	144	103	78	70	[35	26	29	(35)	35	35	18	20	20	22	33	33	35	35]		0
MEANS * 5 DAYS				59	67	72	73	94	117	130	137	147	152	155	155	154	153	151	150	122	106	90	81	76	70	67	70	110	
MEANS † 4 DAYS				68	77	82	77	91	105	113	119	128	134	140	146	147	149	148	147	117	101	92	86	79	70	66	75	107	
MEANS ‡ 2 DAYS				66	77	89	80	78	83	88	87	93	105	107	114	119	122	120	120	90	88	96	92	88	86	84	88	94	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 10

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			252	247	243	259	241	309	188	169	151	144	124	126	126	128	128	135	137	144	144	167	151	157	155	139	174	0
2	✓			135	105	100	130	118	84	80	84	114	(102)	78	95	102	105	98	N 93	86	105	116	135	142	155	146	114	109	1
3	✓	✓	✓	78	80	73	71	53	48	43	68	116	95	98	98	98	105	100	107	114	116	124	139	137	126	112	112	96	0
4	✓	✓		105	102	93	78	53	38	68	63	84	91	84	78	80	78	84	98	116	139	137	202	149	218	239	237	113	0
5	✓	✓		204	200	186	188	171	163	149	116	98	95	95	112	102	110	126	128	128	128	229	176	183	237	270	218	159	0
6	✓	✓		208	220	218	222	192	153	153	149	139	130	105	98	100	116	132	137	126	135	167	188	206	234	243	218	166	0
7	✓	✓		239	268	220	161	151	167	178	146	144	144	126	118	118	102	105	105	102	N149	194	93	126	N139	149	171	151	1
8	✓			176	208	220	146	190	206	218	194	196	149	118	98	76	71	80	76	80	100	128	155	174	178	196	202	151	0
9	✓	✓		213	183	169	137	128	112	114	107	110	95	91	86	86	86	95	98	105	100	102	114	142	171	174	178	125	0
10				171	155	Z+	Z−	Z−	Z	Z	Z	Z	N 71	65	78	88	95	120	Z−	N146	118	137	128	114	124	124	137		2
11	✓			124	80	157	178	196	178	110	105	86	76	68	76	93	88	78	102	110	126	130	153	153	165	196	200	126	0
12	✓	✓		206	144	107	107	88	98	98	88	78	80	100	132	176	206	245	247	270	261	289	309	307	268	278	286	186	0
13	✓	✓		245	270	254	200	208	91	146	124	118	116	110	118	124	114	114	100	95	102	112	120	120	107	100	102	138	0
14	✓	✓	✓	86	114	130	151	132	144	149	135	120	126	130	137	137	132	110	114	118	120	130	169	174	161	142	142	133	0
15	✓			155	149	124	139	142	130	107	100	100	86	98	95	116	118	118	120	110	105	105	120	146	165	161	163	124	0
16	✓	✓		112	55	48	78	68	58	73	76	61	61	80	78	76	78	98	105	118	120	105	105	120	130	149	266	97	0
17	✓	✓		289	295	245	264	270	234	278	213	165	200	128	107	126	130	112	112	126	118	118	116	176	171	194	222	184	0
18	✓	✓		309	289	196	171	120	98	93	84	80	76	73	88	98	126	135	149	132	142	161	178	146	165	183	196	145	0
19	✓	✓		174	206	196	183	165	105	105	110	110	118	110	102	116	114	114	(116)	124	98	118	157	202	204	222	245	146	0
20	✓	✓		227	192	213	190	171	126	114	84	53	53	58	55	68	88	(88	88	88	84	93)	149	146	218	243	222	130	0
21	✓	✓		204	190	243	213	169	139	102	105	107	124	(105	91)	84	80	80	88	86	95	86	88	107	126	107	120	122	0
22	✓	✓		126	149	163	155	144	126	105	88	55	53	63	63	80	86	95	98	93	93	128	149	174	174	153	208	118	0
23	✓	✓		194	146	102	86	76	63	55	63	63	65	58	63	65	91	93	93	105	105	88	73	63	128	202	200	98	0
24	✓	✓		174	124	110	110	124	100	105	202	151	86	61	65	65	71	71	86	118	118	137	146	137	114	137	132	114	0
25				91	114	—	—	—	—	—	—	—	—	61	110	132	128	132	128	118	100	105	110	—	—	—	—		−
26				—	—	—	—	—	—	—	—	—	—	118	124	124	124	118	116	107	120	135	149	155	161	181	202		−
27	✓	✓		155	107	73	55	53	53	50	55	61	55	58	58	55	61	65	76	71	73	55	48	58	53	98	139	70	0
28	✓		✓	142	183	225	174	151	124	86	65	50	46	40	50	65	61	86	114	149	176	234	218	272	257	194	176	139	0
29	✓			215	210	163	174	165	153	146	282	202	183	202	196	206	229	239	225	215	247	266	326	280	243	252	239	219	0
30																													
31																													
MEANS * 26 DAYS				183	174	164	155	144	127	120	118	108	102	95	96	101	107	111	116	120	127	142	154	161	172	181	186	136	
MEANS † 19 DAYS				187	175	160	148	133	111	115	109	101	98	91	92	98	104	109	113	118	121	135	143	151	165	179	190	131	
MEANS ‡ 4 DAYS				103	101	92	89	73	71	78	80	95	89	88	88	89	90	91	95	99	108	107	110	114	110	114	117	96	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

(-) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 11

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.7	20.9	60	29.2	19.6			SW to W								CiSt; CiCu; StCu	2- 8	CiSt; CiCu; StCu	8-10	Dew early
2	740.1	21.0	71	25.7	14.0			Mod W brz at 9h								ASt; FrCu; Nb	7-10	ASt; FrCu; Nb	7-10	Rain at 9h2
3	742.2	20.5	54	27.2	9.0	T		WNW brz in am, SW in pm								Cu; Nb	7-10	Cu; Nb	7-10	
4	744.6	19.8	67	28.2	8.4			WSW airs								Cu	4- 1		0	
5	743.9	20.5	45	31.8	9.0			Lt to gtl SE brzs									0		0	
6	741.4	23.3	40	35.5	10.8			S brz in am, SSW in late pm								Ci; CiSt	7- 9	Ci; CiSt	7- 9	
7	737.5	25.0	40	36.7	15.0			Lt to gtl SSE brz at 9h								Ci; CiSt	6- 8	Cu; CuNb	7-10	Thunder and lightning in NE in late pm; rain at night
8	736.9	24.9	61	35.6	13.1	0.04		SSE to SW								St; Cu; CuNb	1- 6	Cu; CuNb	4- 6	Heavy fog early; hazy or smoky in am
9	738.5	24.5	53	35.0	16.2			Mod SE brz in am									0	Cu; CuNb	1- 6	Hazy
10	735.8	24.4	51	37.2	19.2	0.10		Lt E brz at 9h								CiSt; ASt; FrCuNb	1- 3		..	Thunderstorm at 4h5
11	735.8	27.5	41	37.6	15.2			Lt to gtl ESE brz at 9h									..		..	
12	734.9	28.5	42	32.6	17.1			Lt NW brz in am, W in pm								Ci	1- 3		..	Much smoke in pm
13	736.9	20.5	55	26.1	10.8			Lt SSW brz at 9h								CiSt; FrCu	4- 6		..	
14	739.4	17.1	41	25.3	10.6			Gtl to mod SSW brz at 9h								St; FrCu	1- 3		..	
15	741.2	18.3	38	29.3	10.5			Gtl ESE brz at 9h, E at 16h									..		..	Much smoke in pm
16	740.0	22.3	39	32.4	11.2			Gtl SE brz 9h, ESE at 17h									..		..	Smoke in E
17	738.8	23.3	29	33.2	14.6			Lt E to S brzs								CiCu; StCu	1- 3	StCu	1- 3	Smoke in E
18	737.2	23.5	47	30.7	18.7			Mod ESE brz at 9h								CiSt; ASt; Ci	10	CiSt; ASt; St	10	Smoke bank in W
19	740.6	21.9	53	32.3	15.2			Mod SE brz all day								Ci; CiCu; FrCu	1- 3	Ci; CiCu; FrCu	1- 3	Very smoky
20	741.3	26.1	35	35.4	15.2			Gtl E brz in am									0		0	Slight smoke haze
21	742.1	27.4	33	36.1	16.1			Gtl SE brz at 9h									0		0	Air smoky
22	743.2	27.1	31	37.3	15.5			Gtl to mod ENE brz in am									0		0	Smoke haze; smoky in E
23	741.9	29.5	22	38.1	18.1			NE to SE brzs								CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Smoky in E and S
24	739.6	30.8	19	41.2	14.2			Gtl NE brzs in am, SW in pm									0		0	Air very smoky in early am and late pm
25	741.0	25.5	39	35.6	14.7			Lt to gtl SE to SW winds									0		0	Heavy smoke pall through day
26	743.1	21.3	53	34.5	14.5			Gtl to mod SE brzs all day									0		0	Slight smoke haze
27	741.0	28.8	42	41.1	18.0			Gtl NE brz in am, lt in pm									0	CiSt; Cu	1- 3	
28	738.2	33.2	23	41.7	18.3			Gtl NE to NW am brz, W in pm								Ci; ACu	1- 3	Ci; ACu	1- 3	Considerable smoke in pm
29	739.5	22.5	66	35.0	15.4			Lt to gtl S to SW brzs									0		0	Heavy fog early; much smoke through day
30																				
31																				
SUM						0.14														
MEAN	739.9	24.1	45	33.7	14.4															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1																													
2																													
3																													
4																													
5																													
6																													
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29																													
30																													
31																													
MEANS *																													
MEANS †																													
MEANS ‡																													

February 1924--No positive conductivity data

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 12

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[29	29	37	20	37	28	56	86]	94	108	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
2				—	—	—	—	—	—	—	164	131	132	124	118	111	109	105	106	102	102	96	86	81	74	70	88		1
3	✓	✓	✓	118	118	115	140	182	219	246	242	126	118	129	128	117	117	108	102	103	96	88	76	74	85	94	99	122	0
4	✓	✓	✓	99	102	99	88	102	143	152	166	120	128	140	140	138	140	134	115	100	68	86	[46	94	54	46	50]	106	0
5	✓	✓		[66	71	78	76	74	73]	91	126	152	156	158	147	147	149	144	149	146	138	[54	59	58	56	43	59]	103	-0
6	✓	✓		[64	56	56	54	66]	86	90	88	103	108	121	140	129	115	103	105	109	103	[74	63	58	54	45	39]	85	0
7	✓	✓		[35	33	37	54	58	61	74]	93	102	103	100	100	103	114	124	134	111	≷ 109	76	≷ 88	68	73	56	46	81	1
8				[48	37	18	14	11	7	11	18	18]	26	41	56	61	(76	74	73)	74	71	58	[46	37	28	20	24]		0
9	✓	✓		[24	35	37]	52	56	61	74	88	97	103	105	117	115	117	103	86	74	74	58	70	[50	39	46	43]	72	0
10				39	46	73	91	—	—	—	103	106	166	143	149	159	153	131	88	59	103	82	76	73	76	88	90		2
11				84	—	—	—	—	—	—	84	109	124	149	156	134	118	120	112	—	—	—	—	52	[46	39	37]		0
12	✓	✓		[35]	58	81	78	100	169	182	134	149	156	141	82	[45	37	22	28	22	22	20	18	18	22	22	29]	70	0
13	✓	✓		[33	31	24	26	29	41	58]	106	106	108	115	118	105	102	105	120	108	112	94	100	91	97	99	96	84	0
14	✓	✓	✓	94	84	76	68	86	73	78	102	96	99	90	88	88	97	114	108	90	79	74	[52	56	59	52	46]	81	0
15				[48	56]	73	88	93	100	121	135	132	147	152	135	88	73	—	—	78	94	102	64	45	39	39	37		0
16	✓	✓		39	39	(41	66)	86	118	147	187	191	182	131	141	164	140	102	66	56	43	70	73	46	[24	24	18]	91	0
17	✓	✓		[18	22	35	37	31	52	28	54	73	37]	117	146	91	56	96	91	66	70	61	58	[39	29	26	20]	56	0
18	✓	✓		[18	20	54	58]	115	149	161	179	181	182	158	131	131	70	54	37	(22	33	[39	39	46	35	37	41]	83	0
19	✓	✓		[70	54	63	73	73]	120	137	138	123	99	106	121	88	66	64	18	16	18	28	[29	26	35	35	41]	68	0
20	✓	✓		[52	66	63	76	73]	91	93	175	237	220	197	182	147	86	39	41	31	33	35	18	18	[18	16	18]	84	0
21	✓	✓		[20	20	20	29	35]	48	73	84	88	50	52	52	56	86	74	58	41	33	28	28	24	20	29	35	45	0
22	✓	✓		37	[35	37	46	41]	50	56	74	161	196	175	172	147	90	93	76	64	52	50	26	[24	24	29	24]	74	0
23	✓	✓		[56	63]	112	167	187	197	211	173	158	181	167	131	134	71	74	73	48	33	18	37	37	28	[18	20]	100	0
24	✓	✓		[20]	31	35	28	20	29	18	18	66	114	152	156	144	141	138	134	39	22	20	18	14	20	24	22	59	0
25	✓			24	[20	18	18	16	14	13	14	20	20	18	18	22	22	20	22	18	18	18	18	18	16	14	16]	18	—
26	✓			[18	20	31]	50	45	54	68	63	79	74	68	61	59	59	64	70	61	48	39	[41	41	46	43	46]	52	—
27	✓	✓		[71]	112	155	185	197	179	181	193	172	167	149	140	147	149	132	118	114	103	102	106	102	99	73	37	133	0
28				37	[33	33	37]	45	68	105	141	214	228	204	147	126	114	56	14	—	—	—	—	—	—	—	—		0
29				—	—	—	—	—	—	[13	11	7	7	9	9	7	16]	—	—	—	[14	18	18	18	18	18	24]		0
30																													
31																													
MEANS * 21 DAYS				48	47	60	70	80	97	106	119	124	124	123	120	110	96	91	83	69	62	54	51	48	44	41	40	79	
MEANS † 19 DAYS				51	50	64	74	85	103	113	127	132	132	132	128	118	102	96	87	72	65	57	53	50	46	43	41	84	
MEANS ‡ 4 DAYS				87	104	111	120	142	154	164	176	128	130	133	132	127	127	120	114	106	95	92	92	87	89	84	80	116	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 13

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[205	192	201	188]	138	106	84	56	46	54	72	67	74	81	111	136	133	124	142	[183	215	201	192	169]	132	0
2	✓			138	124	111	97	88	84	69	84	84	88	81	84	100	142	88	86	90	94	97	113	124	111	[217	231]	109	0
3	✓			[224	196	203	169]	106	76	59	84	88	88	90	88	94	102	97	102	106	[167	213	188	174	169	183	165]	135	0
4				[156	146	163	146	117]	88	59	92	90	126	—	—	—	—	—	—	—	—	—	—	—	—	—	—		–
5				—	—	—	—	—	—	—	—	—	—	—	102	100	124	122	102	76	126	122	154	151	142	[126	117]		–
6	✓	✓		[100	84	74	79	59	49	36]	86	81	81	86	86	86	92	[90	90	86	102	124	124	124	[169	151	161]	96	0
7	✓	✓		133	119	106	97	79	65	56	97	≷N 56	N 7	N 18	N 0	N 18	N 51	N 51	N 51≷	65	92	84	84	119	129	124	102	75	1
8	✓	✓	✓	79	69	61	56	46	41	36	≷N 61	-79	N 25≷	79	84	79	84	88	88	88	94	94	88	86	115	142	113	72	1
9			✓	97	84	79	65	56	46	36	63	67	67	67	65	69	67	72	76	—	—	—	—	—	—	113	88		0
10	✓	✓	✓	75	65	56	51	43	39	34	43	54	63	67	69	84	79	84	84	86	111	113	104	100	86	76	65	72	0
11	✓	✓	✓	65	59	63	79	67	67	49	111	102	90	88	79	88	97	92	97	102	97	92	84	84	88	88	111	85	0
12	✓	✓		113	94	76	54	41	63	81	63	30	56	72	79	106	119	124	(119)	138	142	142	146	[302	379	371	371]	137	0
13	✓	✓		[328	292	260	210	174]	151	138	124	102	102	97	97	97	102	102	111	111	119	119	124	[154	171	174	158]	151	0
14	✓			140	140	138	104	94	104	94	76	61	61	67	69	65	65	69	72	76	51	[111	196	142	158	244	296]	112	0
15	✓	✓		[299	228	208	171]	133	133	100	90	102	117	108	86	84	81	67	90	108	122	[181	146	273	242	154	188]	146	0
16				[171	171]	142	142	146	119	115	113	119≷	Z	Z	97	(88)≷	88	88	92	84	102	106	102	106	111	140	106		1
17	✓	✓	✓	117	111	104	104	92	88	88	92	88	88	84	102	106	111	102	97	97	102	111	124	[174	165	156	142]	110	0
18				146	142≷	Z	Z ≷	129	124	111	102	97	102	84	102	106	74	69	79	106	111	161≷	Z	0≷	74	115	115		1
19	✓			111	124	79	97	115	88	56	56	56	65	69	74	69	74	69	69	74	84	97	119	131	129	113	142	90	0
20	✓			129	151	171	142	146	146	129	111	79	76	72	74	84	79	86	86	[154	221	196	165	219	279	294	246]	147	0
21	✓			[205	194	167	167	181]	124	100	[165	235	201	156]	104	88	74	100	151	[186	201	215	199	181	169	215	181]	165	0
22				122	124	133	[176	176	186	210	269	267	246	283	205]	151	106	119	174	≷N215	N273	Z	Z	Z	196	219	Z ≷		2
23				≷N 59	Z	−18	92	N 10	N 46	N 56	117≷	217	165	154	140	149	142	117	115	124	[169	186	188	196	232	242	217		2
24	✓	✓		124	117	113	111	111	104	92	88	88	88	88	97	104	106	104	115	115	129	146	142	[174	215	238	279]	129	0
25	✓			[347	367	355	374	337	328	271]	138	92	79	79	97	86	88	94	88	108	[154	167	178	232	183	169	192]	192	0
26	✓	✓	✓	[192	196	167]	144	133	126	111	113	100	97	81	76	79	74	72	74	76	86	97	102	126	142	140	124	114	0
27	✓		✓	117	102	94	84	106	106	81	76	72	74	65	67	72	76	81	84	94≷	102	110≷	117	105	92	97	92	90	1
28	✓			88	88	79	74	49	49	51	72	69	72	79	79	92	111	102	115	142	146	[219	215	215	169	151]	124	110	0
29	✓	✓		102	74	56	102	133	117	149	[194	171	219	201	171	146]	136	113	117	119	142	138	[242]	161	124	102	124	140	0
30	✓	✓		138	146	[215	371	352	238	138	260]	113	88	86	90	81	79	90	92	100	111	108	117	108	122	122	119	145	0
31				[142	167	124]	74	79	69	74	79	84	106	92	92	92	97	84	106	88	—	—	—	—	—	—	—		–
MEANS * 23 DAYS				155	145	137	136	123	108	91	102	82	86	86	83	86	91	90	96	107	121	135	143	162	166	170	169	120	
MEANS † 13 DAYS				143	127	120	125	113	99	85	109	78	86	89	86	89	93	91	94	99	111	119	125	153	165	157	158	113	
MEANS ‡ 5 DAYS				94	84	79	77	73	69	64	84	82	81	77	78	85	86	84	86	90	98	100	96	100	108	117	104	87	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 14

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.3	19.9	52	28.4	17.8			Lt to gtl		SE	brzs					ASt; ACu	7-10	ASt; ACu	7-10	
2	742.4	19.5	57	30.8	9.1			Lt		SE	brz at 9h					ASt	1- 3		..	
3	740.2	21.5	47	31.7	11.8			Lt		SSE	brz at 9h						..		..	
4	741.6	19.9	48	28.7	10.7			Lt		ESE	brz at 9h						..		..	Air smoky in am
5	741.9	16.5	44	26.1	10.0			Lt,		SE	brz at 9h					CiSt; ASt	7-10		..	
6	744.0	20.2	33	28.9	11.5			Gtl		ESE	brz at 9h						..		..	
7	746.7	21.5	39	29.8	14.8			Fr to str		ESE	wind all day						..		..	Some smoke in air in pm
8	746.3	22.8	36	31.8	14.4			Fr to str		NE	wind all day						..		..	Sand blown up by NE wind at 7h–9h
9	744.5	24.9	22	35.3	16.1			Fr to str		NE	wind in am						0		0	
10	742.2	27.6	16	36.1	11.7			Fr		N	wind in am, W in pm						0		0	Dew early
11	741.3	19.9	68	26.7	13.2			Gtl		S to SW	brzs					CiCu; FrCu; StCu	4-10	CiCu	1- 3	Dew early; few drops rain at 8h
12	741.6	18.6	54	28.6	9.2			Gtl		SE	brz					CiCu	1- 3	CiCu	1- 3	Dew and haze early
13	740.4	24.0	33	36.1	13.9			Lt		SE	airs and brzs						0		0	Some smoke in W
14	738.4	27.9	29	40.2	18.0			Gtl		E	brz, then N and W					CiCu; CiSt; ACu	7-10	CiCu; ACu; CuNb	7-10	Smoke in E and S
15	738.0	24.8	53	37.0	11.6			Lt		N	airs am, pm gtl S brz					Ci; CiSt; ACu; StCu	6- 8	Ci; CiSt; ACu; StCu	9-10	Much smoke in all directions
16	740.8	20.0	60	27.9	16.5			Gtl to mod		SSE	brz at 9h					CiCu; ACu; St	9-10		..	
17	743.3	19.4	55	28.3	13.5			Mod		SE	brz at 9h					Ci; CiSt	9-10		..	Heavy thunder and lightning in N at 23h
18	740.9	21.5	48	26.6	16.7			Mod		SE	brz in am, NE in pm					ACu; St; CiSt	9-10	CiSt; ACu; St	9-10	Rain at night
19	741.5	21.7	62	30.5	12.1	T		Lt		E	airs and brzs					ACu; Cu	1- 3	ACu; Cu	1- 3	
20	742.8	25.8	52	35.6	12.5			Lt		N	airs in am, SW brz pm					Cu	4- 6	Cu	4- 6	Smoke in pm from SW
21	742.0	26.5	43	38.4	12.1			Lt		SW	airs early, NE by 15h						0		0	Much smoke all day
22	741.7	21.2	78	31.1	15.6			Lt		S to SW	airs and brzs					CiSt; ACu; Nb	9-10	ACu	9-10	Much smoke
23	743.3	19.7	79	29.8	16.3	T		Lt to gtl		SE	brz at 9h					ASt	7- 8	ASt	7- 8	Some lightning in evening
24	743.2	17.7	54	26.7	11.9			Gtl to mod		ESE	brz at 9h					ASt	1- 6	ASt	7- 8	
25	743.7	19.8	55	28.3	7.2			Lt		SE	airs and brzs at 9h					Ci	1- 3		..	
26	744.3	18.5	53	28.0	11.5			Gtl to mod		ESE	brzs at 9h					CiSt	1- 3		..	
27	741.3	22.2	40	29.4	16.6			Lt to gtl		SE	brz at 9h					CiSt; ASt; CuNb	9-10	CuNb	7-10	Thunder and lightning in evening, with rain from W
28	739.5	23.4	66	27.4	12.5	0.03		Lt		N	airs and brzs at 9h					ASt	1- 3	Cu	4- 6	
29	739.9	18.2	70	23.7	12.2			Lt		S	brz at 9h					FrCu	4- 6		..	Much smoke in pm
30	740.3	16.8	67	23.1	7.1			Lt		SE	brz in am, gtl SW pm					CiSt; CiCu; ACu	3-10	ACu	10- 1	Dew and mist early
31	739.1	18.2	73	23.6	7.9	0.03		Mod		WNW	brz all day					CiCu; Cu; CuNb	7-10	Cu; CuNb	7-10	Dew early; few drops of rain
SUM						0.06														
MEAN	741.9	21.3	51	30.1	12.8															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

TABLE 15

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1																													
2																													
3																													
4																													
5				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	70	[86	94]		–
6	✓	✓		116	134	147	154	168	176	193	225	231	238	199	189	167	128	137	134	111	92	99	84	66	[69	89	86]	143	0
7	✓	✓		111	120	123	131	153	155	176	168	210	221	200	158	120	120	94	65	36	43	58	90	97	111	99	137	125	1
8	✓	✓		179	193	197	224	234	227	227	238	210	195	183	179	165	171	171	174	171	120	127	130	128	134	138	176	179	1
9	✓			213	231	238	235	249	263	258	244	224	185	171	185	171	181	179	182	176	179	186	165	171	210	176	227	204	0
10	✓	✓	✓	284	294	326	332	346	362	374	375	320	238	218	182	179	168	154	144	136	111	100	125	125	127	133	153	221	0
11	✓	✓	✓	147	144	137	104	109	100	97	113	120	123	114	128	130	137	137	130	133	137	117	123	124	103	106	113	122	0
12	✓	✓		101	97	97	84	73	43	29	41	94	139	141	111	96	89	90	84	81	67	80	73	[50	27	31	32]	77	0
13	✓	✓		[36	39	52	67	89]	97	109	120	139	139	137	134	137	134	127	137	128	100	83	97	[81	80	86	97]	102	0
14				107	116	123	147	143	139	133	182	232	218	182	160	167	155	150	128	50	55	[27	20	46	38	25	25]		0
15	✓	✓		[22	36	52	65]	62	62	70	84	83	72	67	83	84	83	97	70	55	50	[39	39	39	49	80	75]	63	0
16	✓			[80	67]	84	99	92	97	96	94	80	62	18	100	119	137	125	127	138	111	114	128	123	123	99	120	101	1
17	✓	✓		125	125	139	161	169	171	185	172	172	168	153	114	103	104	125	124	111	107	114	114	87	99	110	125	132	0
18	✓			139	141	153	162	174	155	151	185	196	185	181	133	139	155	145	133	130	125	94	94	124	144	130	123	145	1
19				124	130	—	—	—	—	—	—	294	253	210	182	171	167	139	134	128	125	[69	60	69]	83	90	83		0
20				94	—	—	—	—	—	—	—	182	193	200	196	182	179	169	157	[66	14	29	62	49	42	49	52]		0
21				[54	62	66	66	66]	80	77	[60	43	63]	—	—	—	—	—	—	—	—	—	—	—	—	[57	72]		0
22				83	89	83	[70	54	57	49	36	34	36	36	41]	55	54	54	55	16	34	49	36	42	54	27	75		2
23				78	27	39	41	23	25	32	31	49	55	81	67	67	78	83	84	92	[58	50	49	55	54	55	58]		2
24	✓	✓		141	151	154	165	164	169	181	189	193	186	168	162	134	127	136	128	103	70	65	83	67	57	49	55	129	0
25				—	—	—	—	—	—	—	125	185	231	193	154	155	158	123	125	77	[39	22	25	32	49	49	41]		0
26	✓	✓		46	50	72	92	106	107	111	113	123	131	141	141	128	157	158	154	141	125	107	111	99	113	131	161	117	0
27				178	213	241	252	263	242	235	225	232	238	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
28				—	—	—	—	—	—	—	288	267	235	200	181	147	70	32	107	93	97	[57	70	73	75	84]	89		0
29	✓	✓		93	101	107	103	57	66	54	[52	49	36	39	43	60]	70	70	72	69	70	80	[25]	70	100	111	83	70	0
30	✓	✓		86	100	[70	22	31	80	83	46]	125	139	136	114	144	138	130	136	137	138	130	137	155	133	128	179	113	0
31	✓			[141	131	160]	217	242	251	248	196	165	150	144	143	139	143	141	128	128	127	121	121	125	137	154	169	159	–
MEANS * 17 DAYS				121	127	136	142	148	152	155	156	161	153	142	135	130	132	130	125	117	104	101	102	102	107	109	124	130	
MEANS † 13 DAYS				114	122	129	131	135	140	145	149	159	156	146	134	127	125	125	119	109	95	92	95	91	92	99	113	123	
MEANS ‡ 5 DAYS				189	201	216	217	227	228	205	203	192	169	159	150	142	149	151	147	138	120	113	123	120	120	121	145	164	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 16

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	[82	94	102	93	73	85	66	70	73	78	70	61	56	56	35	26	37	39	56]		0
2				85	100	106	121	—	—	—	—	121	144	150	137	106	45	121	128	106	105	106	78	73	76	[41	37]		0
3				[35	35	26	39	70]	88	103	121	135	143	137	132	106	73	88	71	70	[29	20	22	22	18	18	18]		0
4				[11	11	7	7	9]	14	29	59	70	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—		–
5				—	—	—	—	—	—	—	149	147	167	134	124	71	—	—	—	84	76	79	56	59	64	[61	59]		–
6	✓	✓		79	90	103	117	134	147	164	211	216	240	193	184	156	124	131	124	103	85	88	73	50	[56	74	73]	126	0
7	✓	✓		100	103	105	114	131	138	161	161	197	223	213	162	118	121	91	68	37	46	56	81	85	94	86	117	117	1
8	✓	✓		152	164	176	199	205	199	207	214	194	191	190	182	170	167	170	170	167	115	115	106	106	106	103	147	163	1
9	✓		✓	188	205	210	197	210	222	235	228	210	170	153	185	169	185	184	185	170	167	169	147	146	178	138	204	186	0
10	✓	✓	✓	274	275	306	298	303	315	319	335	315	255	228	191	204	191	162	149	126	93	86	88	88	76	90	120	204	0
11	✓	✓	✓	115	111	105	74	59	48	59	91	106	118	106	121	120	129	123	118	115	117	102	106	97	79	85	84	100	0
12	✓	✓		73	76	73	76	59	37	22	37	88	132	134	103	88	73	73	71	70	59	59	56	[37	20	20	20]	65	0
13	✓	✓		[20	29	37	46	59]	70	79	102	124	121	118	117	118	112	115	105	78	61	73	[58	46	59	71]	80	0
14				73	78	88	114	118	103	—	—	—	—	—	149	155	152	141	117	46	56	[24	18	37	35	22	20]		0
15	✓	✓		[20	33	37	43]	52	48	56	58	56	48	56	74	73	71	82	56	45	39	[28	31	26	31	58	56]	49	0
16	✓		✓	[56	54]	70	73	68	70	70	76	71	≷ 73	68 ≶	103	106	120	117	118	121	103	99	102	86	88	73	88	86	1
17	✓	✓		91	91	115	135	149	166	156	152	153	152	141	105	94	91	115	114	102	97	100	93	64	81	90	100	114	0
18	✓			106	118	128	149	147	128	131	162	176	170	166	118	118	135	129	115	105	94	71	(91	106	100)	97	100	123	1
19				88	85	124	134	121	150	240	272	272	228	191	173	158	150	134	135	111	109	[64	50	58]	70	74	61		0
20				61	61	61	63	70	68	71	88	149	167	182	178	166	164	161	153	[46	14	20	45	37	28	28	35]		0
21				[39	43	46	50	52]	56	66	[43	29	41]	—	—	—	—	—	—	—	—	—	—	—	—	[39	48]		0
22				56	63	61	—	—	—	—	[18	18	22	22	31]	45	45	39	37	16	22 ≶	33	52	37	37	14	56 ≷		2
23				—	—	—	—	—	—	—	—	28	37	63	54	56	66	70	70	73	[41	37	37	39	41	73]	—		2
24	✓	✓		(149)	158	159	176	178	(178	176	176)	178	169	155	150	121	118	120	115	90	59	52	56	56	45	39	33	121	0
25				[24	26	26	24	33	35	48]	103	182	223	188	143	149	150	111	118	68	[33	20	20	22	37	33	29]		0
26	✓	✓		26	31	56	84	88	90	102	103	118	124	≶ 135	135	126	156	156	149	135	117	100	94	85	96	112	141	107	0
27			✓	155	185	210	214	210	197	207	216	225	226	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
28				—	—	—	—	—	—	—	240	237	226	—	176	140	63	28	90	79	79	41	56	54	46	50	56		0
29	✓	✓		73	81	82	70	37	50	37	[37	37	29	35	37	52]	59	59	59	59	58	61	[20]	58	82	88	66	55	0
30	✓	✓		63	64	[45	11	14	50	63	22]	103	128	124	103	135	131	115	118	117	109	[102	94	103	93	93]	135	89	0
31	✓			[106	91	123]	182	194	213	188	176	149	135	138	146	137	149	137	115	132	115	108	102	94	88	100	123	135	–
MEANS * 17 DAYS				99	104	114	120	123	128	131	138	147	146	138	130	124	125	122	115	106	91	86	83	79	80	83	99	113	
MEANS † 13 DAYS				95	100	108	111	113	118	123	131	145	148	141	128	121	119	116	110	98	82	78	75	70	70	77	89	107	
MEANS ‡ 5 DAYS				165	173	189	184	186	190	174	182	180	164	153	147	143	150	148	143	129	108	100	99	92	89	93	116	146	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 17

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1924.

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	105	110	105	100	145	167	181	181		0
2	✓			167	163	158	150	131	127	118	118	91	78	76	78	80	91	99	100	100	99	95	123	123	123	[158	177]	118	0
3	✓	✓		[200	173	167	163]	127	105	87	78	60	55	60	60	68	74	68	78	74	68	74	[221	181	177	190	226]	118	0
4	✓	✓		[221	217	217	235	217	163]	123	114	95	78	87	87	95	87	95	91	[158	229	231	150]	112	105	129	118	144	0
5	✓	✓		127	107	87	51	46	74	36	71	78	55	78	87	89	76	64	74	76	55	{N 25}	33	107	99	{ 78	N 49}	72	1
6	✓	✓	✓	60	76	68	62	74	82	107	118	82	78	87	78	82	78	82	95	95	105	100	118	118	118	118	123	92	0
7	✓	✓	✓	123	127	118	100	100	91	68	68	60	74	87	82	78	87	87	87	91	95	95	100	123	123	100	100	94	0
8	✓	✓	✓	95	100	95	87	82	78	68	74	68	74	78	82	78	82	87	91	100	100	114	127	141	141	131	127	96	0
9	✓	✓	✓	118	95	95	78	74	60	60	68	78	78	91	87	91	78	87	82	74	78	60	78	78	78	91	78	81	0
10	✓	✓		78	78	74	60	64	55	51	60	68	68	68	78	78	87	95	91	118	110	118	[271	123	165	242	208]	105	0
11	✓	✓		[206	165	167	163]	110	105	95	102	93	68	68	71	85	82	78	91	105	[127	217	257	284	210	206	141]	137	0
12	✓	✓		[200	240	210	202	215	202	139]	82	76	68	62	67	67	67	76	76	78	82	91	99	105	110	102	99	117	0
13	✓	✓	✓	91	95	85	76	64	55	53	51	55	55	64	68	68	78	78	82	74	55	49	41	49	78	120	100	70	0
14	✓	✓		87	58	58	60	64	55	55	60	62	64	67	68	74	78	74	68	78	[154	158	136	145	163	150	145]	91	0
15	✓	✓		[194	194	167]	150	118	91	68	60	55	55	55	60	74	78	68	N 58	76	74	118	100	[145	177	217	190]	110	1
16	✓	✓		[190	226	263	217	177	131]	68	74	60	41	58	46	74	80	91	89	102	[152	123	156	179	229	210	242]	137	0
17				[367	Z+	Z+	Z+	347	316	210]	136	85	62	58	58	62	76	78	{N 95}	85	55	60	[177	235	263]	127	95		1
18	✓	✓		60	136	110	105	127	148	133	143	127	100	76	74	74	68	74	74	71	80	78	87	110	136	167	145	104	0
19	✓	✓	✓	136	127	141	123	110	100	82	82	82	82	82	82	91	89	78	78	78	[139	167	112	133	152]	129	125	108	0
20				116	89	93	80	68	64	60	58	53	51	55	55	60	62	62	68	60	53	60	[Z+	273	226	102]	76		1
21	✓	✓		62	74	102	80	67	53	43	49	53	51	55	60	60	68	74	82	100	[163	345	240	269	186	131	165]	110	0
22	✓			[177	219	175	139]	99	80	62	67	64	64	95	169	131	167	139	120	150	120	116	[169	188	204	210	210]	139	0
23	✓			[169	145]	127	105	93	89	80	76	82	82	87	87	82	95	105	118	118	110	110	123	131	118	118	110	107	0
24	✓	✓	✓	123	127	123	110	107	91	87	87	89	99	105	100	105	116	110	116	120	133	118	120	148	136	139	112	113	0
25	✓	✓	✓	105	100	100	95	91	82	82	78	78	82	87	100	100	95	105	95	95	99	99	91	116	127	120	114	97	0
26	✓			100	107	118	99	95	87	80	82	91	100	95	95	93	100	100	95	89	74	62	58	60	87	112	110	91	0
27	✓			91	85	74	74	64	55	53	55	58	68	74	82	87	99	95	95	80	64	67	74	68	80	74	87	75	0
28	✓			85	87	105	93	71	55	46	49	51	55	62	68	78	78	85	85	80	93	93	80	76	107	112	107	79	0
29				99	78	78	87	87	68	[154	Z+	123	78]	91	91	91	95	95	100	110	118	114	136	123	118	136	145		0
30	✓			154	136	136	118	95	95	95	95	91	91	95	95	87	87	91	78	87	74	68	64	78	91	105	114	97	0
31																													
MEANS * 26 DAYS				132	133	128	115	103	93	78	79	75	72	77	81	83	87	88	88	95	105	115	124	130	135	141	135	104	
MEANS † 19 DAYS				130	132	129	117	107	96	79	80	75	70	74	76	81	81	83	84	93	110	125	134	140	143	146	137	106	
MEANS ‡ 8 DAYS				106	106	103	91	88	80	76	78	74	78	85	85	87	88	89	91	91	100	100	98	113	119	118	110	94	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 18

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	743.0	16.2	66	22.0	12.0			Lt to gtl	SSE	brz all day						Cu; CuNb	10- 1		0	
2	743.1	16.2	41	27.3	4.5			Lt	SE	airs and brzs at 9h						Ci; CiSt	7-10	Cu; CuNb	10	Dew early; threatening in pm
3	740.4	23.0	36	34.3	9.9			Lt	SE	to SW airs and brzs						CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Smoke in N and S
4	742.2	23.3	47	34.9	10.6			Lt	N	airs in am, W pm brzs						Ci	1		0	Smoke from NW in late pm; rain at night
5	743.0	19.5	86	23.7	12.4			Lt	WNW	airs in am, W in pm						Cu; CuNb	10	Cu; CuNb	10	Rain from 7h to 11h5; mist or fog early
6	744.7	16.3	97	24.3	11.8	0.05		Lt	S	airs and brzs at 9h						Cu; CuNb	9-10	Cu; CuNb	9-10	Mist or fog early; few drops rain in am
7	746.0	17.5	66	24.8	7.7	T		Lt to gtl	SE	brzs at 9h						FrCu	1- 3	FrCu	1- 3	
8	747.9	17.4	52	25.5	9.8			Gtl to mod	E	brz						Ci	1		0	
9	744.9	18.5	48	27.8	8.4			Mod	E	brz						Ci; CiSt	1	Ci; CiSt	1	Smoke in W in pm
10	741.9	22.4	35	33.9	11.5			Mod	NNE	brz in am, W in pm						ACu	1		0	Heavy smoke in W, with W wind
11	742.1	25.3	38	36.2	11.0			Gtl	NE	brz in am, W in pm						ASt; ACu	1- 3	ASt; ACu	1- 3	Much smoke from W in pm
12	746.4	21.2	66	30.1	14.0			Gtl to mod	SE	brz						CiSt; ASt	4- 6	CiSt; ASt	4- 6	
13	746.7	23.4	50	34.7	13.6			Gtl to mod	NE	brz						CiSt; ACu	7- 8	CiSt; ACu	7- 8	
14	744.0	25.3	33	35.3	17.8			Gtl to mod	NE	brz						CiSt; CiCu	7- 9	CiSt; CiCu	7-9	
15	743.7	24.3	24	33.5	14.0			Lt	N	brz in am, calm in pm						CiSt; ACu; ASt	7- 9	CiSt; ACu; ASt	7- 9	Some smoke in W
16	740.5	23.2	24	34.4	11.2			Lt	N	airs in am, W in pm						St; Nb	7-10	FrCu	7-10	Much smoke from W at 16h
17	740.2	20.0	35	36.2	11.1			Lt	SE	airs in am, SW in pm						FrACu; ASt	7-10	FrACu; ASt	7-10	Smoky in pm
18	742.7	21.8	41	34.4	10.1			Lt	SE	airs						Ci; CiSt	7- 8	Ci; CiSt	7- 8	Light dew early
19	745.7	19.6	61	32.1	12.5			Gtl	E	to SE brzs						CiSt	9-10	CiSt	9-10	Heavy fires in SE and SW; dew early
20	744.2	22.7	41	35.7	14.6			Lt	E	brz in am, calm in pm						CiCu; Cu	6- 8	Cu; CuNb	9-10	Smoke from W in evening
21	742.5	22.8	33	35.0	13.8			Gtl gusts	NE, N and W	brzs						Cu; CuNb	10	CiCu; ACu	10	Fires in S and W
22	743.3	18.3	46	34.1	12.2			Lt	NE	brz am, gtl SW in pm						ACu; ASt; Cu	7-10	ACu; ASt; Cu	7-10	Smoke arriving from various directions
23	747.6	18.8	59	24.7	11.8			Fr	SE	wind all day						Ci; CiCu; Cu	1- 3	Ci; CiCu; Cu	1- 3	Smoky in E
24	750.3	14.2	58	22.9	8.0			Fr to str	SSE	wind all day						Ci; CiCu; ACu	1- 3	Ci; CiCu; ACu	1- 3	
25	750.4	18.8	51	27.8	8.4			Fr to str	E	wind all day							0		0	Dew early
26	749.8	19.3	49	27.3	11.1			Gtl to mod	NE to E	brzs							0		0	
27	748.2	19.2	45	28.1	6.1			Lt	NE	airs all day							0		0	
28	745.2	19.4	38	21.1	6.5			Lt	N	airs and brzs at 9h							0		0	
29	743.6	17.3	91	26.6	4.4			Lt	SSE	airs at 9h							0	ACu	1- 3	Fog early
30	742.9	15.3	76	22.8	9.8			Lt to gtl	SSE	brz at 9h						CiCu; ACu; ASt	10- 1		0	Smoky or hazy in E and N
31																				
SUM						0.05														
MEAN	744.6	20.0	51	30.0	10.9															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS—6 MPH; LIGHT BREEZE (LT BRZ)—12 MPH; GENTLE (GTL BRZ)—18 MPH; MODERATE (MOD BRZ)—25 MPH; FRESH (FR) WIND—30 MPH; STRONG (STR) WIND—35 MPH; VARIABLE (VAR).

TABLE 19

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			138	160	151	162	196	196	192	174	179	155	158	148	148	120	109	106	106	109	120	125	89	83	93	104	138	0
2				—	—	—	—	—	—	—	197	252	291	288	258	223	199	181	195	171	157	160	125	128	151	125	109		0
3	✓	✓		111	113	119	127	148	178	207	253	327	349	332	280	232	216	196	153	162	144	145	38	80	94	97	84	174	0
4	✓	✓		80	80	77	77	77	99	110	114	168	179	158	150	134	117	124	131	63	38	50	81	83	81	77	106	102	0
5	✓	✓		111	114	111	168	124	83	128	161	125	103	101	99	103	103	104	125	128	123	123	120	99	121	125	141	118	1
6	✓	✓	✓	154	139	148	151	141	123	123	114	144	167	125	124	123	114	109	100	100	100	111	100	101	111	111	111	123	0
7	✓	✓	✓	114	119	123	131	150	181	224	253	266	244	202	181	171	143	154	150	128	114	109	101	81	94	116	130	153	0
8	✓	✓	✓	145	157	202	210	216	238	266	286	281	223	182	148	153	167	172	172	162	124	125	117	114	116	154	154	178	0
9	✓	✓	✓	165	221	235	295	322	343	340	332	291	252	227	213	207	204	200	197	196	178	209	168	185	216	221	253	236	0
10	✓	✓		253	256	273	304	273	302	326	307	265	235	238	235	221	209	202	107	32	43	104	42	130	50	36	58	187	0
11	✓	✓		62	70	73	83	97	99	110	125	171	241	269	239	200	181	157	133	23	36	17	18	31	63	69	72	110	0
12	✓	✓		69	67	67	69	66	69	100	137	165	164	168	153	148	138	124	123	107	94	83	86	83	97	111	138	109	0
13	✓	✓	✓	151	168	190	206	238	266	298	326	307	256	227	211	210	155	182	167	158	161	181	238	230	190	99	139	206	0
14	✓	✓		202	252	260	259	244	284	266	273	273	256	225	211	182	171	169	168	171	66	81	93	90	97	100	94	187	0
15	✓	✓		89	84	90	103	125	155	182	238	325	309	306	267	221	162	128	136	147	168	96	92	72	65	77	69	154	1
16	✓	✓		70	66	60	63	83	90	113	125	209	300	300	281	251	204	193	196	125	67	52	55	66	60	60	65	131	0
17	✓			50	49	55	62	66	67	83	128	209	280	320	339	304	259	252	158	113	114	67	0	0	27	111	127	135	1
18	✓	✓		134	119	121	109	104	100	97	111	110	154	195	207	206	193	188	185	162	123	124	111	109	92	83	111	135	0
19	✓	✓	✓	113	125	120	134	154	165	181	197	210	200	182	183	144	155	172	183	182	93	47	139	113	99	155	162	150	0
20	✓			185	209	225	241	273	303	317	332	370	341	294	253	214	225	211	196	206	218	206	97	25	50	125	196	221	1
21	✓	✓		209	161	138	179	228	276	298	314	304	304	272	(238)	231	(210)	193	164	153	77	22	32	52	78	83	81	179	0
22				77	80	109	125	153	168	196	213	260	—	—	—	97	38	—	—	—	87	111	84	75	67	81	87		0
23				97	111	127	157	175	195	188	193	183	—	—	—	111	124	113	—	—	—	—	—	83	101	127	134		0
24	✓	✓	✓	141	145	161	182	196	206	216	225	223	195	175	154	134	137	136	139	124	125	128	130	114	127	153	190	161	0
25	✓	✓	✓	211	209	210	238	260	266	277	300	(303)	276	241	196	185	(182)	178	176	186	176	158	182	147	169	200	234	215	0
26				255	263	192	244	238	252	239	248	238	223	213	199	186	—	—	—	—	—	—	—	—	—	—	—		0
27																													
28																													
29																													
30																													
31																													
MEANS * 22 DAYS				134	140	146	162	172	186	202	219	238	236	223	205	187	171	166	153	133	113	107	98	95	99	112	128	159	
MEANS † 19 DAYS				136	140	146	163	171	185	203	221	235	232	217	198	182	166	162	153	132	108	103	102	104	106	112	126	158	
MEANS ‡ 8 DAYS				149	160	174	193	210	224	241	254	253	227	195	176	166	157	163	160	154	134	134	147	136	140	151	172	178	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 20

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			106	109	103	103	153	152	162	140	166	149	149	146	140	111	94	93	88	88	88	99	71	63	66	70	113	0
2				73	96	118	146	134	131	182	182	234	261	262	240	200	187	161	166	134	131	131	94	102	118	[99	79]		0
3	✓	✓		[82	88	94	102]	129	153	179	219	303	340	330	272	225	210	182	128	143	128	124	[33	66	73	73	59]	156	0
4	✓	✓		[45	56	58	54	56	71]	76	74	143	161	146	134	118	111	115	124	[37	33	35	56]	58	64	58	86	82	0
5	✓	✓		90	88	73	124	91	71	118	134	112	96	90	88	90	90	93	105	105	103	112	108	82	85	97	118	98	1
6	✓	✓	✓	105	102	103	100	82	103	88	86	118	149	111	118	118	111	102	90	85	85	88	84	88	(91)	88	90	99	0
7	✓	✓	✓	91	88	94	108	118	149	184	232	252	228	188	172	166	135	146	143	120	105	99	88	63	73	91	103	135	0
8	✓	✓	✓	111	118	179	194	199	219	240	268	270	214	181	141	147	161	169	167	147	114	108	96	97	103	126	121	162	0
9	✓	✓	✓	141	197	207	244	267	285	302	315	279	244	228	223	214	211	208	191	182	149	187	144	162	182	190	225	216	0
10	✓	✓		220	211	223	250	238	268	296	273	254	231	243	244	225	210	204	102	[37	50	88	35	96	39	26	39]	171	0
11	✓	✓		[46	45	61	68]	88	88	99	103	143	211	258	238	193	179	156	126	18	31	16	14	18	39	39	50	97	0
12	✓	✓		[50	37	50	56	52	54	86]	132	161	162	176	158	158	150	137	135	120	103	93	94	90	103	114	123	108	0
13	✓	✓	✓	132	137	150	173	196	222	255	288	288	248	225	204	197	138	156	140	156	135	164	210	187	156	86	91	181	0
14	✓	✓		179	240	244	234	216	254	238	237	255	252	229	210	176	162	161	149	147	[56	73	71	63	61	73	70]	169	0
15	✓	✓		[61	70	71]	76	103	134	159	193	292	297	300	270	214	149	120	132	131	137	86	79	[59	52	54	52]	137	1
16	✓	✓		[54	37	46	46	56	68]	88	112	188	288	294	288	244	200	182	172	120	[56	46	43	52	46	48	48]	118	0
17	✓			[33	18	28	35	37	48	58]	100	170	240	285	302	273	242	237	≷ 135 ≶	97	108	58	[0	2	22]	97	114	114	1
18	✓	✓		121	99	106	88	91	73	81	73	90	135	178	191	191	182	176	172	158	103	102	99	88	79	64	86	118	0
19	✓	✓	✓	91	105	90	100	106	126	152	188	199	193	178	172	134	143	162	178	176	[86	37	105	93	81]	121	132	131	0
20	✓			141	179	182	213	234	258	285	304	359	352	308	267	216	232	205	191	188	190	179	[90	18	35	96]	170	204	1
21	✓	✓		207	162	118	138	216	255	300	300	284	294	268	237	228	211	196	164	138	[66	16	18	20	52	59	61]	167	0
22				[70	58	76	96]	128	140	179	178	196	—	—	—	88	37	—	—	—	73	86	[61	56	52	59	64]		0
23				[81	94]	103	124	149	161	164	179	178	—	—	—	137	121	105	—	—	—	88	71	—	—	—	103		0
24	✓	✓	✓	118	121	138	155	176	179	194	211	(210	190)	170	149	129	123	118	121	115	109	103	96	85	93	96	162	140	0
25	✓	✓	✓	181	179	194	219	211	210	213	266	(303	285)	248	191	182	184	179	175	179	164	134	149	112	134	175	196	194	0
26				216	225	166	(219)	204	210	188	210	213	204	194	190	179	—	—	—	—	—	—	—	—	—	—	—		0
27																													
28																													
29																													
30																													
31																													
MEANS * 22 DAYS				109	113	119	131	142	156	175	193	220	225	217	201	181	166	159	142	122	100	93	82	76	78	88	103	141	
MEANS † 19 DAYS				112	115	121	133	142	157	176	195	218	222	213	195	176	161	156	143	122	95	90	85	83	85	88	101	141	
MEANS ‡ 8 DAYS				121	131	144	162	169	187	204	232	240	219	191	171	161	151	155	151	145	118	115	122	111	114	122	140	157	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 21

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			95	81	81	100	123	113	150	141	159	131	127	118	118	118	137	137	127	131	127	118	108	118	108	113	120	0
2	✓			21	21	21	150	145	145	127	141	113	67	91	100	86	86	91	100	95	95	72	77	81	77	63	53	88	0
3				63	53	48	48	48	38	33	33	38	58	72	72	77	91	72	—	—	—	95	86	95	95	91	118		0
4	✓			[159	141	159	168]	118	81	100	118	123	113	113	95	118	113	123	141	141	123	108	113	100	104	100	100	120	0
5	✓			95	104	108	108	100	72	72	67	72	67	67	69	69	75	77	77	93	77	72	95	100	95	91	91	84	0
6	✓			86	81	77	77	72	72	67	67	67	67	72	72	72	77	81	77	72	67	53	77	91	100	91	77	76	0
7				77	72	72	67	67	53	53	53	48	58	53	58	67	72	67	43}	Z	53	77	118	Z	Z	Z	91}		1
8				104	67	77	95	81	67	58	72	63	53	58	63	72	72	100}	Z	Z	Z	Z	Z }	55	55	61	53		2
9				48	53	53	58	67	91	91	63	53	58	63	63	67}	Z	Z	Z	Z	Z }	108	55	67	58	53	53		2
10	✓	✓	✓	63	53	55	61	53	46	46	43	48	48	46	55	67	77	79	104	150	93	75	58	38	48	53	48	63	0
11				53	48	53	53	53	45}	N 48	Z	Z	Z	Z	63	Z	Z	45	81	Z	N 53	N 55	N 55	75	Z	79}	100		2
12	✓	✓	✓	91	81	98	98	86	79	75	91	84	84	100	104	118	118	118	123	113	77	53	67	86	100	95	91	93	0
13				72	72	67	58	53	53	48	48	53	58	63	72}	Z	Z	Z	Z	Z	Z	58	27	N 27	16	33	Z }		2
14			}	27}	104	100	95	91	77	81	77	81	81	72	72	58	72	63	72	77	77	72	58	58}	58	Z }	77		1
15	✓	✓	✓	91	100	86	86	72	67	72	77	81	77	77	69	72	77	91	84	93	72	89	86	65	51	46	53	76	0
16	✓	✓	✓	75	69	65	65	38	36	36	61	84	65	75	77	79	91	89	93	89	69	65	61	61	48	43	30	65	0
17	✓	✓		[27	25	20	25	30	40	30]	65	69	65	67	67	69	69	79	91	93	84	75	72	72	69	79	91	61	0
18	✓	✓		77	[43	22	22	22	22	27]	67	100	95	77	86	81	81	86	91	91	91	81	77	67	72	72	72	68	0
19	✓	✓	✓	67	72	67	67	58	58	63	53	55	67	81	95	111	104	95	98	100	95	95	(81	67}	67	67	69	77	0
20	✓	✓		69	67	65	46	86	93	77	58	63	63	67	81	95	113	104	104	100	72	95	81	77	72	104	[177]	85	0
21	✓	✓		[204	159	145	123	104]	95	72	77	113	100	113	118	123	131	150	141	145	104	81	77	95	118	113	100	117	0
22	✓	✓	✓	95	91	81	81	63	63	72	72	77	81	86	86	91	91	91	91	95	72	53	77	91	95	95	95	83	0
23	✓	✓	✓	86	67	53	53	48	48	48	53	53	67	67	72	77	81	95	95	81	63	48	48	43	48	53	53	62	0
24				53	53	53	48	48	43	48	53	58}	Z	Z	86	Z	Z	Z	Z	Z	Z	91}	81	95	115	100	91		2
25	✓		}	91}	91	79	79	72	67	63	58	69	77	89	91	86	91	91	89	79	67	67	58	48	48	36	33	72	0
26	✓			43	43	46	38	38	38	43	46	48	51	63	69	69	77	91	81	77	53	48	53	55	51	69	69	57	0
27	✓			77	67	67	61	53	48	51	51	61	58	77	89	93	91	91	93	95	75	72	75	65	51	46	63	70	0
28	✓	✓	✓	53	75	72	58	65	63	53	53	69	61	58	58	77	81	91	108	100	86	81	81	81	91	81	67	73	0
29				58	63	67	53	43	43	43	38	43	51	65	69	72	77	75	79	89	72	N 43	Z	Z	40	67	118}		1
30			}	127}	100	93	81	95	77	77	100	77	95	91	77	72	—	—	—	—	58	N 77	Z	Z	Z	55}	98		1
31	✓	✓	✓	100	98	102	102	98	93	89	81	86	86	91	81	81	91	95	95	95	81	72	58	53	33	43	38	81	0
MEANS * 21 DAYS				84	78	75	79	74	69	68	73	81	76	81	83	88	92	97	101	101	83	75	76	74	74	74	75	80	
MEANS † 13 DAYS				84	77	72	68	63	62	58	65	76	74	77	81	88	93	97	101	103	81	74	71	69	70	73	76	77	
MEANS ‡ 9 DAYS				80	78	75	75	65	61	62	65	71	71	76	77	86	90	94	99	102	79	70	69	65	65	64	60	75	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } { = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VAL

TABLE 22

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.7	16.6	69	22.5	4.5			Lt NW air at 9h								CiCu; CiSt	7-10		..	Dew early
2	742.4	14.8	89	23.8	6.2			Lt to gtl NW brz at 9h								Cu	1- 3		..	Fog early
3	741.0	16.5	73	25.2	8.3			Lt N airs and brzs at 9h								Cu	1- 3		..	Fog early
4	745.0	14.8	64	18.8	10.8	0.04		Gtl to mod SSE brzs								FrCu; StCu	1	FrCu; StCu	1	
5	746.8	13.0	41	21.4	1.2			Lt to gtl ESE brzs									0		0	Dew early
6	745.2	16.7	37	27.6	5.0			Lt NE to NW brzs								ASt; StCu; Ci; CiSt	7- 8	Ci; CiSt	7- 8	
7	742.9	20.3	32	27.8	9.7			Lt NE brzs at 9h								Ci; CiSt; ACu; ASt	10	ACu; Nb	10	Light rain and thunder and lightning at night
8	742.4	18.5	65	29.4	10.5	0.03		Lt N airs at 9h								FrCu; StCu	4- 6	StCu; CuNb	7-10	Almost continuous thunder and lightning in pm
9	742.3	17.2	82	28.5	8.1	0.01		Gtl NNE brzs at 9h								FrCu; CuNb	1- 6	CuNb	7-10	Rain, thunder, and lightning in pm
10	741.0	19.0	73	29.4	10.8	0.27		Gtl N brz at 9h								Cu; CiSt	4- 6	Ci; CiSt; CuNb	7-10	
11	736.9	18.6	85	19.1	14.5	0.09		Fr NW wind								CuNb	10	CuNb	10	Rain all day after 7h
12	745.6	14.4	79	19.4	7.6	0.16		Lt E to SE airs and brzs									0		0	
13	740.9	17.2	76	23.6	7.0			Lt to gtl N brz at 9h								Cu; CuNb	5- 8	CuNb; Nb	7- 8	Dew early; rain, thunder, and lightning in pm
14	739.7	16.0	66	14.6	8.2	0.55		Lt to gtl WNW brzs								FrCu; Cu; Nb	4- 8	CuNb; Nb	7-10	Rain in pm and evening
15	741.8	14.9	69	17.7	9.2	0.13		Lt to gtl WSW brz in am								CuNb; Nb	10- 7	CuNb	7- 8	Light rain in am
16	744.5	13.0	92	17.6	4.3	0.01		Lt ENE airs in am, calm pm								Cu; FrCu	1- 3	Cu; FrCu	1- 3	Fog till 9h
17	741.6	13.9	66	21.2	3.3			Lt NE airs								FrCu	1- 3	FrCu	1- 3	Dew early
18	739.4	14.7	92	17.2	5.0	0.04		Lt to mod W to SW brzs								ACu; Cu; CuNb	10	ACu; CuNb	7-10	Drizzling rain in am
19	743.5	14.2	81	21.6	8.2			Lt N airs in am, SW-W in pm								Cu; CuNb	10	Cu; CuNb	10- 1	Dew early
20	744.1	12.6	70	22.1	2.9			Lt NW to W brzs								ACu; Cu; St	10- 4	ACu; Cu; St	4-10	Heavy fog early
21	750.3	13.3	70	17.2	6.0	0.04		Lt SE airs and brzs								CiCu; CiSt	10- 1	CiCu; CiSt	1- 3	Dew early
22	752.0	12.4	54	21.5	0.1	0.03		Gtl to mod E to SE brzs								ACu; ASt	1- 3	ACu; ASt	1- 3	Dew early
23	746.6	12.1	42	24.1	2.9			Gtl to mod N to NE brzs								ACu; ASt	4- 6	ACu; ASt	4- 6	Dew early
24	736.8	18.5	35	21.4	10.2			Fr NW wind in am, W in pm								StCu; CuNb	10	CuNb; StNb	10	Rain at 9h.2 and all pm
25	743.4	11.2	77	12.5	2.1	0.24		Lt S to SW airs and brzs								Ci; CiSt; FrCu	4- 9	Ci; CiSt	4- 8	
26	745.9	12.2	76	15.6	3.7			Lt NNE airs and brzs								FrCu	1- 3	FrCu	4- 6	Dew early
27	743.9	11.0	67	21.7	0.1			Lt N airs and brzs								CiSt; FrCu	1- 3	CiSt	1- 3	Dew early
28	741.9	11.1	77	24.3	3.1			Lt SSE airs all day								CiSt	1- 3		0	Heavy dew early
29	742.0	13.3	71	23.9	3.0			Lt N brzs								St	1- 3		0	Dew early; cloudy at night, with rain
30	737.6	18.4	92	23.1	12.1	0.20		Fr NNW wind								Nb	9-10	Nb; CuNb	9-10	Rain in am and at night; strong sand-laden wind after 10h
31	744.5	14.0	70	18.1	9.0	0.33		Gtl to mod W to SW brzs								Cu; CuNb	4- 6	Cu; CuNb	4- 6	
SUM						2.17														
MEAN	743.0	15.0	69	21.7	6.4															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

TABLE 23

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	198	184	178	200	216	209		2
10	✓	✓	✓	196	238	241	234	233	274	262	311	316	289	261	230	206	179	156	143	131	149	173	175	196	219	248	273	222	0
11	✓			275	300	294	300	303	313	289	201	173	117	111	141	141	121	137	152	137	146	142	126	137	132	156	175	188	2
12	✓	✓	✓	161	178	175	187	200	188	187	191	216	212	156	136	111	100	98	80	96	131	161	147	132	112	133	155	152	0
13				195	208	257	268	276	283	284	293	273	220	208	199	166	—	185	79	89	156	186	156	157	174	170	132		2
14	✓			133	145	143	142	146	166	177	182	180	160	151	155	146	147	156	147	147	154	157	184	187	186	147	147	158	1
15	✓	✓	✓	122	140	148	163	169	171	190	198	189	167	160	157	147	157	156	155	156	157	159	178	179	189	190	178	166	0
16	✓	✓	✓	171	181	237	240	267	287	287	269	225	257	203	179	158	137	124	135	155	178	199	197	194	209	220	232	206	0
17	✓	✓		222	215	254	250	158	230	233	261	257	261	(241	220)	201	197	181	177	164	174	187	199	209	210	216	219	214	0
18	✓	✓		243	258	270	304	291	290	221	223	175	137	132	124	132	133	139	140	138	137	136	152	170	180	189	199	188	0
19	✓	✓	✓	208	207	231	238	274	271	262	304	307	263	224	184	180	180	175	170	171	163	161	170	182	194	196	209	214	0
20	✓	✓		230	241	263	320	142	141	136	237	310	315	260	194	175	170	164	163	158	155	163	170	178	186	161	154	199	0
21	✓	✓		147	146	145	149	147	163	189	205	209	180	133	133	123	103	80	79	92	110	120	130	120	124	137	169	139	0
22	✓	✓	✓	180	198	220	240	277	276	261	262	256	244	228	222	224	221	220	204	197	150	205	188	175	172	179	205	217	0
23	✓	✓	✓	238	294	357	375	385	402	424	440	403	308	292	240	220	179	166	179	188	212	231	255	287	314	304	295	291	0
24	✓			316	337	345	347	359	404	381	331	275	215	180	189	161	143	170	167	155	145	148	161	160	146	161	166	232	2
25				135	182	190	188	232	256	255	267	281	233	173	167	166	—	—	—	—	—	181	210	252	275	344	373		0
26				359	389	390	446	442	421	419	399	403	348	281	230	215	212	207	207	194	180	206	186	179	212	213	220		0
27				233	274	286	273	305	357	325	334	332	326	—	—	—	207	—	—	—	—	167	182	203	199	227	230		0
28	✓	✓	✓	227	207	198	208	179	188	242	265	303	330	348	368	337	288	266	221	198	199	219	228	224	210	217	243	246	0
29				—	—	—	—	—	—	—	—	443	393	312	271	251	228	210	209	207	219	231	165	—	—	—	—		1
30				—	—	—	—	—	—	—	—	199	182	146	122	121	107	93	111	117	88	78	95	199	—	101	112		1
31	✓	✓	✓	123	124	130	140	143	149	163	170	184	171	163	151	156	164	165	167	170	167	174	199	217	241	220	206	169	0
MEANS * 16 DAYS				200	213	228	240	230	245	244	253	249	227	203	189	176	164	160	155	153	158	171	179	184	189	192	202	200	
MEANS † 13 DAYS				190	202	221	234	220	233	235	257	258	241	215	195	182	170	161	155	155	160	176	184	189	197	201	211	202	
MEANS ‡ 9 DAYS				181	196	215	225	236	245	253	268	267	249	226	207	193	178	170	162	162	167	187	193	198	207	212	222	209	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 24

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	170	173	162	176	210	221		2
10	✓	✓	✓	220	249	265	253	255	280	299	337	337	315	293	274	250	209	175	159	128	147	159	157	210	238	281	293	241	0
11	✓			296	315	320	321	327	331	310	246	195	142	136	142	102	147	134	145	141	134	128	126	130	139	134	113	194	2
12	✓	✓	✓	125	141	131	133	175	176	170	165	192	218	162	142	113	100	96	85	94	124	159	150	116	111	124	144	139	0
13				173	192	246	262	267	270	281	299	271	232	220	203	190	171	136	—	157	164	159	164	133	148	127	147		2
14	✓			137	127	124	122	128	141	144	168	173	159	162	161	159	156	165	167	150	146	142	156	168	167	142	126	150	1
15	✓	✓	✓	108	113	118	116	126	140	153	165	177	165	155	164	152	165	153	149	138	136	132	134	148	140	144	142	143	0
16	✓	✓	✓	146	158	209	199	261	313	267	267	203	264	207	190	167	143	119	125	150	164	171	178	187	213	218	222	198	0
17	✓	✓		224	226	253	264	194	238	250	247	252	252	240	228	215	204	191	186	170	158	168	188	191	199	197	202	214	0
18	✓	✓		236	240	267	294	284	271	212	213	164	138	140	143	148	148	149	144	136	130	132	134	174	175	181	175	184	0
19	✓	✓	✓	204	199	233	257	277	282	277	310	299	259	193	168	165	174	170	161	155	136	143	142	168	184	193	199	206	0
20	✓	✓		209	225	253	303	150	149	124	331	338	349	305	219	187	175	165	168	158	161	138	137	161	170	138	113	201	0
21	✓	✓		108	107	114	104	104	126	165	167	175	194	142	136	122	106	89	80	92	95	106	122	120	108	119	136	122	0
22	✓	✓	✓	167	170	200	225	266	275	252	243	253	256	242	236	240	245	246	215	187	161	193	158	178	178	180	174	214	0
23	✓	✓	✓	215	281	349	358	388	391	394	420	435	336	321	268	236	206	180	191	196	216	225	266	305	321	314	313	297	0
24	✓			324	336	341	350	356	390	363	320	287	242	199	196	186	184	168	167	159	146	131	124	125	120	120	128	228	2
25				144	140	149	148	180	210	240	253	257	222	181	170	178	—	—	—	—	—	164	183	238	257	310	—		0
26				—	—	—	—	—	—	—	—	—	336	273	233	212	199	207	204	172	168	207	194	196	225	218	226		0
27				231	287	278	270	275	338	325	352	339	334	263	222	200	206	203	171	159	148	170	167	197	216	222	225		0
28	✓	✓	✓	218	183	181	193	161	186	242	264	292	320	336	347	317	282	253	215	194	184	200	212	209	187	197	213	233	0
29				284	287	256	267	361	459	—	—	459	394	323	278	254	232	210	209	193	191	221	232	196	233	232	196		1
30				172	175	171	203	184	218	152	168	184	165	156	149	146	138	137	137	136	94	92	110	136	119	106	107		1
31	✓	✓	✓	118	119	118	116	118	119	106	134	153	146	152	(146	150)	152	153	149	140	125	136	164	171	202	199	191	145	0
MEANS * 16 DAYS				191	199	217	226	223	238	233	250	245	235	212	198	182	175	163	157	149	148	154	159	172	178	180	180	194	
MEANS † 13 DAYS				177	185	207	217	212	227	224	251	252	247	222	205	189	178	165	156	149	149	159	165	180	187	191	194	196	
MEANS ‡ 9 DAYS				169	179	200	206	225	240	240	256	260	253	229	215	199	186	172	161	154	155	169	173	188	197	[illegible]	210	202	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 25

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[29	24	29	29	24	24	20	34]	43	49	53	63	67	82	73	67	67	53	39	49	43	77	67	73	49	0
2	✓	✓		73	67	58	67	53	87 }	92	N 98 }	130	125	98	92	98	102	102	98	116	92	73 }	N 87	73 }	49	53	[24]	84	1
3				—	—	—	—	—	—	—	—	49	77	87	77	82	92	77	77	92	77	73	73	73	67	58	53		–
4	✓	✓	✓	39	43	49	49	39	29	49	49	43	49	65	75	75	80	82	77	77	51	53	51	63	71	73	61	58	0
5	✓	✓	✓	49	46	49	46	41	39	41	43	49	67	73	67	71	67	58	61	39	46	39	43	58	49	46	49	52	0
6				51	43	46	34	34	49	46	49	41	39	24	53	55	N 34 }	49	63	43	53	34	29	Z	Z	Z	Z }		2
7			}	Z	Z	Z	Z	20	5	24	20 N	5	73 }	102	73	} 111	Z	Z	Z	Z	Z }	77	67	63	58	43	49		2
8	✓	✓		[49	34	29	43	34	63	49	49]	82	73	73	77	77	73	77	82	77	73	63	53	(49	49	53)	53	60	0
9	✓	✓	✓	53	53	53	49	49	49	49	49	51	46	51	58	58	82	100	106	102	71	58	67	73	77	71	67	64	0
10	✓	✓	✓	71	77	71	65	63	58	51	53	67	63	67	77	90	92	92	92	90	77	58	55	63	71	67	65	71	0
11				61	53	53	49	14	24	31	51	58	63	67	63	71	77	77	75	77	67	61	58 }	Z	Z	Z }	125		1
12				139	156	156	125	125	120	92	73	87	87	82	73	67	67	67	77	77 }	Z	Z	77	N 82 }	102	111	98		1
13	✓	✓	✓	87	82	82	82	82	77	77	77	92	80	71	65	N 87	87	82	82	90	82	71	75	73	73	63	63	78	1
14	✓	✓	✓	61	55	46	43	49	46	41	34	51	53	63	67	75	75	77	77	67	63	67	63	67	71	71	71	61	0
15	✓	✓	✓	65	63	55	58	53	53	51	49	55	51	51	61	58	67	73	73	71	46	46	51	51	53	63	53	57	0
16	✓			46	43	41	39	37	34	29	26	29	34	39	39	49	58	58	58	53	43	58	63	49	58	43	39	44	0
17	✓			34	39	39	39	39	39	39	39	63	58	58	58	67	65	71	82	75	61	53	41	43	43	49	49	52	0
18	✓	✓	✓	49	49	43	49	43	43	39	39	43	43	39	43	49	49	63	67	43	43	43	53	49	49	49	49	47	0
19				43	55	65	65	55	55	53	58	46	67	85	73	77	82	85	75	53	49	51	43 }	Z	Z	46 }	63		1
20				49	67	73	75 }	49	43	Z	34	Z	Z	Z	63	24	73	65	63 }	73	67	63	53	63	61	65	[24]		1
21	✓	✓		[34	20	20]	43	67	98	63	34	104	118	71	63	73	71	77	80	67	71	N 71 }	82	58	58	67	67 }	66	1
22				65	—	—	—	—	—	—	—	108	106	94	100	90	90	73	75	67	—	—	—	—	58	51	—		–
23				—	—	—	—	—	—	—	—	53	63	73	77	92	92	102	92	92	98	87	77	87	92	87	73		–
24				73	73	73	67	67	67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		–
25				—	—	—	—	—	—	—	—	73	73	73	73	82	87	87	92	87	67	58	53	67	92	98	92		–
26	✓	✓	✓	92	92	94	67	67	67	53	53	73	67	67	71	71	71	71	67	65	49	41	46	43	51	46	46	64	0
27				49	43	43	39	39	34	34	43	43	49	53	53	67	63	73	85	82	75 }	Z	Z	53	90	N 24	39 }		1
28	✓	✓	✓	} 39 }	67	82	87	92	65	41	43	75	92	92	92	94	98	116	118	102	94	92	87	87	87	73	49	82	0
29				—	—	—	—	—	—	—	—	73	73	77	92	98	106	111	116	130	120	130	116	92	67	67	73		0
30	✓			92	98	102	98	102	120	73	63	58	77	92	92	92	92	87	92	87	67	58	63	77	77	92	92	85	0
31																													
MEANS * 17 DAYS				57	56	55	56	55	58	50	49	65	67	66	68	74	77	80	81	76	64	58	61	60	63	62	57	63	
MEANS † 14 DAYS				56	55	54	56	54	57	51	50	68	70	67	69	74	78	82	82	77	65	58	62	61	63	62	56	64	
MEANS ‡ 10 DAYS				60	63	62	60	58	53	49	49	60	61	64	68	73	77	81	82	75	62	57	59	63	65	62	57	63	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } {=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 26

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.2	10.7	76	19.5	1.8			Lt	N airs and brzs								0	Cu; CuNb	7- 8	Heavy dew early
2	739.6	17.1	87	19.5	9.6	0.14		Gtl	W brz							Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Few drops rain in am and at night
3	745.7	11.0	82	14.1	7.2	0.06		Lt	E airs and brzs							ASt; ACu; CuNb	8- 1	Cu	1- 3	Rain in early am; frost at night
4	745.3	9.7	81	13.9	0.3			Lt	ENE airs and brzs							Ci	1- 3	Ci	1- 3	Heavy fog this am
5	741.8	11.2	40	19.9	0.5			Mod	NNE brz in am, lt in pm							Ci; ACu; ASt	1- 3	ASt; CuNb	4- 8	Frost this am; threatening in pm
6	739.8	13.4	73	20.3	6.7	T		Lt	N to NW airs							Cu; FrCu; CuNb	10	CuNb; NbSt	10	Frequent showers all day; rain all night
7	735.1	14.4	96	18.4	11.5	0.99		Lt	NW airs							ASt; CuNb; Nb	10	CuNb; Nb	10	Rain in earliest hours and all day
8	741.5	12.3	89	16.6	5.9	0.03		Gtl	SE brz							Cu	1		0	Fog early
9	747.0	10.9	73	14.6	2.0			Gtl	E to SE brzs								0		0	Dew early
10	747.9	11.0	67	14.8	2.9			Mod	E brz at 9h								0		0	Dew early
11	741.0	12.5	63	20.0	5.3			Mod	NE to NW brzs							ACu; ASt	1- 3	ACu; ASt	4- 8	Rain in late evening
12	738.2	12.5	74	13.3	6.0	0.44		Gtl to mod	W brz							CiSt; FrCu; St	5-10	FrCu; St; CuNb	7-18	Light rain in pm
13	743.3	12.1	72	13.2	4.3	0.13		Mod	SW brzs							FrCu; Nb	7-10	FrCu; Nb	7-10	Occasional driving showers
14	747.7	10.1	87	16.4	2.2	0.03		Lt	NNW airs							ACu; ASt	7-10	ACu; ASt	7-10	Dew early
15	751.0	10.4	76	16.7	1.5			Lt	SE airs							ASt; ACu	1- 3		0	Dew early
16	749.9	11.0	72	18.1	1.8			Lt	NE airs								0		0	Dew early
17	746.4	12.0	48	21.5	0.9			Gtl to mod	N brz							ACu; ASt	1- 3		1- 3	Frost early
18	745.7	12.6	53	25.1	4.0			Lt	N airs and brzs							CiCu; CiSt; ACu; ASt	7-10	CiCu; CiSt; ACu; ASt	7-10	
19	744.2	11.8	65	24.4	6.4			Lt to gtl	N brzs							CiCu; ASt; Cu; CuNb	7-10	CiCu; ASt; Cu; CuNb	7-10	Threatening in late pm
20	739.9	13.9	90	17.7	10.5	0.08		Gtl	N brz all day, calm eve							Nb	10	Nb	10	Raining all day, heavily in am
21	743.2	15.0	100	21.1	11.1	0.22		Lt to gtl	N and W brzs							Nb; NbSt	10	Nb; CuNb	10	Fog till 9h5; light rain in am
22	746.9	13.9	76	12.8	10.2	0.05		Lt to gtl	SW to NW brzs							CiSt; ACu; CuNb	7-10	CiSt; ACu; CuNb	7- 8	Light showers in am
23	751.7	10.1	87	12.4	5.1	0.03		Mod	SE brz							CiSt; Cu	7-10	CiSt; Cu	7-10	Dew early
24	748.2	10.0	79	10.3	7.6	T		Lt	ENE brz in am							St; Nb	7-10	St; Nb	7-10	Rain in am
25	745.8	11.7	76	19.1	6.9	0.01		Gtl	NE brz							StCu	1- 3		0	Clear at night
26	745.7	13.4	66	23.0	5.6			Gtl	N to NE brzs							FrACu	1- 3		0	Dew early
27	742.5	13.1	58	24.2	3.8			NE gusts in am, NW brz pm								St	1- 3	ACu	4- 6	Rain at night
28	747.5	12.2	92	14.1	7.1	0.17		Lt	SSW airs at 9h							Cu; FrCu	10		..	Fog early
29	749.5	11.3	69	14.4	5.8			Lt	E airs in am and S in pm							ASt; Cu; StCu	1- 3	ASt; Cu; StCu	1- 3	Dew early, and mist
30	749.3	10.2	93	14.9	2.3			Lt	N airs							ACu; Cu	10- 7	ACu; Cu	7- 8	Dew early, and mist
31																				
SUM						2.38														
MEAN	744.8	12.0	75	17.5	5.2															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS—6 MPH; LIGHT BREEZE (LT BRZ)—12 MPH; GENTLE (GTL BRZ)—18 MPH; MODERATE (MOD BRZ)—25 MPH; FRESH (FR) WIND—30 MPH; STRONG (STR) WIND—35 MPH; VARIABLE (VAR).

TABLE 27

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		267	260	249	256	251	234	204	288	331	322	297	249	205	177	160	173	175	177	175	207	207	186	188	186	226	0
2	✓	✓		186	184	190	192	184	171	148	136	167	142	131	127	135	123	119	110	115	127	138	138	119	136	160	163	148	1
3	✓			158	165	160	177	186	184	175	196	215	211	194	171	167	158	161	167	175	194	200	190	188	196	217	230	185	–
4	✓	✓	✓	271	267	241	235	281	339	211	228	297	235	202	188	192	163	144	161	161	196	211	228	230	247	252	273	227	0
5	✓	✓	✓	310	328	321	339	391	384	396	403	373	294	269	269	252	234	241	262	254	267	275	275	266	260	306	321	304	0
6				308	333	366	358	348	344	375	349	387	401	349	342	331	319	340	—	—	217	192	215	200	—	—	—		2
7				—	—	—	—	—	—	—	—	235	215	207	—	—	—	—	—	—	—	138	140	163	181	161	211		2
8	✓	✓		230	266	295	241	222	119	158	198	247	230	211	205	196	192	194	183	196	215	230	226	235	237	245	249	218	0
9	✓	✓	✓	256	269	288	295	310	344	360	348	324	295	271	230	213	184	138	154	177	192	196	179	167	196	234	237	244	0
10	✓	✓	✓	239	251	266	295	303	306	322	310	299	284	219	160	148	(142	160	179	196)	211	234	241	245	245	243	241	239	0
11	✓			249	252	271	267	251	234	239	252	260	256	228	219	204	190	198	200	198	209	217	196	184≷	135	271≷	232	226	1
12				181	160	144	—	—	—	—	—	190	175	160	169	161	(160	158	156)	150≷	121	135≷	152	142	140	148	173		1
13	✓	✓	✓	156	158	167	186	184	179	181	184	183	188	175	177	175	165	167	165	175	184	192	198	220	219	245	251	186	1
14	✓	✓	✓	269	299	326	346	351	351	378	360	360	357	299	247	245	237	213	196	200	188	165	175	177	184	202	222	264	0
15	✓	✓	✓	235	241	251	252	271	284	290	292	317	324	304	269	256	249	237	234	237	267	266	249	234	235	237	269	262	0
16				303	321	328	346	349	366	375	344	378	346	326	297	252	226	222	232	232	228	177	183	215	198	232	286		0
17				326	306	324	344	358	348	333	319	304	292	301	251	228	213	(209	219	228)	232	230	234	258	284	324	321		0
18	✓	✓	✓	308	312	317	326	330	342	360	398	394	398	382	348	326	304	256	249	252	290	275	266	304	337	358	364	325	0
19	✓			375	380	362	360	392	391	398	399	413	330	271	262	247	234	215	215	230	243	237	256≷	215	138≷	271	273	296	1
20	✓			275	295	292	290	290	292	290	290	264≷	138	213≷	190	196	217	219	200	196	198	213	234	220	234	198	234	237	1
21	✓	✓		290	254	275	215	104	113	100	119	136	175	239	190	161	152	154	158	160	160	158	136	(142	148)	154	156	169	1
22	✓			163	169	165	177	169	161	181	181	179	152	154	144	135	156	158	158	161	184	196	200	213	215	217	202	175	–
23	✓			202	232	235	230	234	251	251	260	281	308	271	251	235	213	(200	186	173)	160	158	175	177	177	183	209	219	–
24	✓			220	249	275	306	304	322	328	348	297	290	(267	241	215)	184	198	215	215	213	217	215	237	251	269	284	257	–
25	✓			282	262	254	252	258	254	247	239	264	258	252	247	224	213	209	213	200	217	230	237	254	237	235	243	241	–
26	✓	✓	✓	251	258	256	254	252	254	269	264	264	256	267	252	251	252	247	249	258	269	273	282	304	310	313	315	268	0
27				340	355	391	403	—	—	—	—	—	385	328	306	247	234	211	183	177	175	148	160	163	158	160	169	—	1
28	✓	✓	✓	190	181	184	190	207	245	234	198	232	209	(175	158)	152	161	160	167	160	163	160	161	163	175	179	196	183	0
29	✓			205	194	200	215	222	220	219	228	279	290	279	230	204	184	177	163	138	135	140	156	205	241	249	247	209	0
30				226	152	146	175	158	190	230	330	333	324	—	—	194	—	—	—	—	—	—	—	183	192	183	200		0
31																													
MEANS * 23 DAYS				243	249	254	256	259	260	258	266	277	258	242	218	206	195	188	189	191	203	207	210	213	215	236	243	231	
MEANS † 14 DAYS				247	252	259	259	260	262	258	266	280	265	246	219	208	195	185	189	194	208	211	212	215	222	237	246	233	
MEANS ‡ 10 DAYS				248	256	262	272	288	303	300	298	304	284	256	230	221	209	196	202	207	223	225	225	231	241	257	269	250	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 28

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		210	243	243	244	240	231	227	262	326	318	299	262	210	185	171	168	171	165	167	188	184	170	165	172	218	0
2	✓	✓		171	164	171	170	165	154	131	116	81	114	113	116	120	112	113	98	98	100	112	95	98	100	101	113	122	1
3	✓			110	126	98	130	125	146	143	156	180	187	158	170	146	143	148	159	152	148	144	143	155	171	187	200	151	–
4	✓	✓	✓	213	229	239	226	270	325	217	204	273	240	187	184	182	167	148	161	156	185	187	216	200	216	223	252	212	0
5	✓	✓	✓	286	306	298	331	362	386	402	403	348	286	275	282	263	240	247	249	244	243	247	263	236	247	286	314	294	0
6				290	329	342	342	329	325	334	328	371	378	344	321	315	306	303	(259	201)	155	148	158	149	118	124	170		2
7				162	143	188	137	124	142	140	144	170	144	144	172	158	150	143	106	119	92	119	128	146	143	130	172		2
8	✓	✓		190	237	244	217	198	130	142	184	200	216	213	201	201	198	188	181	175	172	159	172	190	200	201	206	192	0
9	✓	✓	✓	218	240	244	256	265	298	329	335	318	290	273	243	223	184	132	144	162	175	168	144	146	175	204	216	224	0
10	✓	✓	✓	211	203	229	270	286	285	288	289	293	285	231	178	156	152	158	159	164	185	201	214	213	214	207	206	220	0
11	✓			211	214	226	213	207	201	204	216	230	242	218	217	198	185	190	190	187	194	201	184	185	{273	334}	210	214	1
12				152	114	113	—	—	—	—	—	150	155	155	159	154	—	(155	154)	154	{155	159}	131	128	110	113	112		1
13	✓	✓	✓	122	113	118	126	142	132	128	130	138	156	168	164	161	155	148	143	143	132	142	140	161	170	185	210	147	1
14	✓	✓	✓	216	244	285	299	314	319	331	337	312	332	278	227	220	216	184	174	171	168	152	171	172	187	178	188	236	0
15	✓	✓	✓	217	230	247	253	259	272	273	279	276	286	286	259	249	236	229	227	217	244	230	227	204	216	217	254	245	0
16				298	303	328	344	334	357	370	342	358	347	329	305	272	253	—	—	217	227	—	—	—	—	—	—		0
17				—	—	—	—	—	—	—	—	—	278	296	262	234	221	(206	201	201)	216	221	259	272	288	306	326		0
18	✓	✓	✓	318	331	332	342	355	360	387	406	370	377	387	371	345	303	247	217	226	244	247	256	275	325	345	355	322	0
19	✓			377	358	339	347	348	373	375	389	392	301	273	272	247	230	210	203	203	220	230	247	256	230	242	239	288	1
20	✓			260	260	247	244	259	272	{247}	283	267	{302	257}	172	195	200	200	174	154	(155	162)	158	156	165	162	213	215	1
21	✓	✓		191	211	218	159	86	94	94	110	134	150	201	217	187	185	177	167	156	152	148	131	138	137	140	130	155	1
22	✓			118	128	138	143	140	132	144	134	131	128	126	128	131	142	144	136	137	140	156	167	174	172	174	171	143	–
23	✓			175	191	201	198	201	206	213	243	275	298	259	242	242	214	214	204	195	156	132	144	155	144	161	184	202	–
24	✓			195	227	263	278	288	298	316	321	280	279	270	236	227	190	214	206	211	213	206	214	234	234	244	262	246	–
25	✓			259	244	240	234	243	240	230	231	242	233	243	240	216	203	200	198	185	191	201	216	226	213	211	207	223	–
26	✓	✓	✓	203	204	204	204	218	229	233	230	236	244	259	243	242	254	247	244	234	244	256	266	288	273	285	288	243	0
27				—	—	—	—	—	—	—	—	—	—	—	—	—	—	187	177	167	167	175	159	142	114	148	142		1
28	✓	✓	✓	118	128	130	125	126	175	174	130	177	171	187	(185	164)	148	154	146	149	143	140	143	132	140	134	138	148	0
29	✓			146	142	142	156	162	171	164	167	187	236	246	201	188	172	168	144	114	96	108	124	172	197	208	203	167	0
30				191	131	134	142	132	152	203	282	270	269	—	—	201	—	—	—	—	—	—	—	—	—	172	168		0
31																													
MEANS * 23 DAYS				206	216	222	225	229	236	234	242	246	247	235	218	205	192	184	178	174	177	178	184	189	199	208	214	210	
MEANS † 14 DAYS				206	220	229	230	235	242	240	244	249	248	240	224	209	195	182	177	176	182	183	188	188	198	205	217	213	
MEANS ‡ 10 DAYS				212	223	233	243	260	278	276	274	274	267	253	234	220	206	189	186	187	196	197	204	203	216	226	242	229	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 29

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED → 120° EAST MERIDIAN MEAN TIME)

JULY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	92	92	88	92	92	88	82	74	72	68	76	80	78	88	88	82	74	64	66	68	80	97	99	86	82	0
2	✓	✓	✓	76	90	74	90	92	88	74	68	74	74	68	82	82	88	92	92	88	68	68	68	74	74	68	68	78	0
3	✓	✓	✓	68	88	74	90	92	92	94	92	103	78	68	64	68	68	82	82	82	68	68	82	78	68	84	82	80	0
4	✓	✓	✓	90	90	76	72	90	90	76	90	68	64	59	56	64	64	72	72	59	47	47	59	68	74	72	82	71	0
5	✓	✓	✓	78	86	72	66	68	66	59	59	47	49	64	66	68	78	86	86	92	68	59	62	54	49	66	66	67	0
6	✓	✓	✓	56	52	56	64	64	56	59	49	59	59	66	64	74	86	99	97	92	54	47	54	66	59	59	59	65	0
7				54	59	64	59	44	44	44	44	44	44	49	54	64	68	74	88	68	54	64	—	—	—	—	—		–
8				—	—	—	—	—	—	—	—	39	42	42	42	47	74	80	82	82	82	74	74	74	68	[44	35]		–
9				[35	35	25	25	35	44	N 25	49]	—	169	120	99	104	92	97	106	102	106	111	97	92	90	66	44		1
10	✓	✓	✓	42	39	42	49	35	37	37	42	49	49	64	74	88	82	68	82	88	68	54	59	68	68	64	44	58	0
11				44	59	68	64	49	[29	44]	64	64	49	≷N 25	−4	N 39≶	49	39	44	49	44	44	49	54	39	35	—		1
12				—	—	—	—	—	—	—	—	—	—	—	—	—	—	97	88	82	74	78	64	25	49	74	37		–
13				—	—	—	—	—	—	—	—	92	97	92	82	86	72	82	88	88	76	88	74	49	[20	17	17]		–
14	✓	✓		[20	39	29	29	20	20	20]	44	74	68	68	74	88	78	82	88	82	64	59	59	[35	29	20	20]	50	0
15	✓	✓		[22	29	37	22	22	20	22]	39	62	59	59	59	64	59	64	74	78	64	59	59	82	82	64	44	52	0
16	✓			[15	15	20]	39	42	47	52	47	54	49	54	64	64	64	59	59	64	42	49	52	54	59	59	54	49	0
17	✓			59	44	49	44	39	39	39	35	39	44	78	74	78	88	88	92	68	59	68	88	74	64	72	49	61	0
18	✓	✓	✓	37	39	39	35	39	35	33	39	59	66	86	74	78	80	74	78	74	72	68	64	66	74	62	49	59	0
19	✓			35	35	22	25	27	33	25	47	72	68	72	68	74	76	72	66	68	59	59	62	64	66	62	59	55	0
20	✓	✓	✓	52	49	56	52	44	52	42	44	47	49	59	62	54	56	54	56	56	42	39	42	56	47	64	49	51	0
21				54	39	≷N 29	N 35	N 35	N 20≶	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
22				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	86	94	94	92	86	90	78	56	—		1
23				—	—	—	—	—	—	—	—	—	64	64	64	64	72	80	66	66	47	—	—	—	—	—	—		1
24				—	—	—	—	—	—	—	—	—	—	72	80	88	80	80	88	86	82	≷ 68	66	Z ≶	—	—	—		1
25				—	—	—	—	—	—	—	—	—	—	—	≷ Z	Z	Z	Z	Z	74	74	—	—	—	—	—	— ≶		2
26				—	—	—	—	—	—	—	—	—	—	82	≷N 92	97	Z	N 49	N 97	97	Z	N 20≶	20	25	20	15	15		1
27	✓	✓		[20	25	25	29	35	29	20	20]	97	102	97	97	97	102	97	115	111	111	99	88	72	72	[22	20]	67	0
28	✓	✓		[25	22	22	12	15	20	22	20]	49	47	39	62	80	78	86	82	92	82	80	44	33	25	17	17	45	0
29	✓	✓		[35	39	37	44	37	37	37	47]	97	88	66	74	76	86	80	88	88	64	62	62	80	82	49	29	62	0
30	✓	✓		35	25	35	35	25	29	25	42	49	52	52	56	56	66	72	78	78	76	76	76	56	54	68	[20]	52	0
31				—	—	—	—	—	—	—	—	39	86	88	80	80	74	59	68	92	82	82	(92	82)	92	111	115		0
MEANS * 18 DAYS				48	50	47	49	49	49	45	50	65	63	66	69	74	77	79	82	80	65	63	64	64	64	60	50	61	
MEANS † 15 DAYS				50	54	51	52	51	51	47	51	67	65	66	70	74	77	80	83	82	67	63	63	65	64	59	49	63	
MEANS ‡ 9 DAYS				66	69	64	68	68	67	62	62	64	62	68	69	73	74	79	81	79	61	57	62	68	68	71	65	68	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BA WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 30

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	747.4	10.8	76	18.9	1.3			Lt	NE airs to calm								0		0	Dew early
2	744.4	11.2	57	18.4	2.0			Lt	SSW airs and brzs							Cu; StCu	1- 3	Cu	1- 3	Dew early
3	746.0	10.1	80	21.6	3.1			Lt	S and SE airs and brzs								0		0	Dew early
4	746.6	10.4	78	22.9	1.5			Lt	S airs							ASt	1- 3	ASt	1- 3	Dew early
5	746.7	12.0	55	22.0	0.6			Gtl	N to NE brzs							Ci; ASt	1- 3	Ci; ASt	1- 3	Dew early
6	746.4	12.6	38	21.7	2.4			Lt	NNE airs and brzs								0		0	Frost in am
7	745.5	11.0	41	22.9	2.0			Lt	N to NE airs and brzs							Fr; Cu	1- 3		0	Cloudy at night
8	743.4	11.5	55	22.8	5.5			Lt	NNW to NW airs							ACu; ASt	7- 9	ACu; ASt	7- 8	
9	740.9	14.8	77	16.9	6.1	0.12		Fr	to Str WSW winds							Cu; StCu	1- 8	Cu; StCu; CuNb	7-10	Very heavy wind, with occasional showers
10	747.1	6.5	85	13.9	-1.6	T		Lt	NNE brz in am, NW in pm							FrACu	6- 8	CiCu; CiSt; FrACu	8-10	Frost early
11	742.2	8.6	75	11.0	2.9			Lt	NE brz at 9h							CiSt; ACu; ASt	7-10	ASt; CuNb	7-10	Dew early; rain in early pm
12	742.4	12.7	93	13.0	7.5	0.10		Lt	N to W brzs							Nb	7-10	Nb	7-10	Occasional heavy showers
13	750.9	12.5	72	16.8	5.8	0.28		Lt	SSW brzs							ACu; ASt	1- 3		0	
14	752.7	9.0	91	17.2	1.8			Lt	SE airs and brzs							ASt	1- 3		0	Dew and fog early
15	751.1	11.3	73	18.7	2.2			Lt	NE airs and brzs								0		0	Dew and fog early
16	749.1	11.5	58	20.1	4.5			Lt	ENE to NE brzs								0		0	Dew early
17	744.9	11.2	67	14.9	0.4			Gtl	N to NW brzs							Cu; StCu	1- 3	StCu; CuNb	7-10	Dew early; occasional showers in pm
18	746.8	10.3	83	13.4	3.5	0.03		Lt	N brz changing to gtl S							Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Dew early
19	747.5	9.4	65	10.7	2.1			Gtl	SSE brz in am, E in pm							ACu; ASt; Cu	8- 4	ACu; ASt; Cu	3- 1	Dew early
20	744.1	8.4	59	19.0	0.1			Lt	ENE brz in am								0		0	Heavy frost
21	732.3	12.0	98	14.4	7.3	0.28		Fr	NE to N and NW winds							Nb	10	Nb	10	Heavy wind with heavy driving showers
22	735.6	11.8	90	14.5	9.0	0.66		Gtl	to mod W and WSW brzs							Nb	7-10	Nb	7-10	Occasional showers
23	744.0	10.7	98	15.3	4.3	0.06		Lt	NNW to N brzs							CuNb; Nb	7-10	CuNb; Nb	7-10	Light shower in am
24	740.7	11.5	84	18.7	5.1	0.01		Lt	NNE brz in am, NW in eve							Cu	4-10	Cu; CuNb	1- 8	Rain at night
25	734.2	8.5	96	12.8	7.1	0.73		Fr	to Str NW to W winds							Nb	10	Nb	10	Heavy wind all day with frequent showers
26	738.4	12.7	92	17.4	5.1	0.25		Gtl	to mod N and W brzs							Nb	7-10	Nb	7-10	Occasional driving showers
27	744.9	11.9	93	17.2	2.7	0.22		Lt	NW to W airs and brzs							ACu; ASt; Cu; CuNb	4- 6	ACu; ASt; Cu; CuNb	1- 3	
28	750.1	10.6	90	19.6	2.1			Lt	N to W airs and brzs							ASt	1- 3	Cu	4- 6	Heavy dew and fog early; rain at night
29	751.5	9.6	95	19.4	4.9	0.30		Lt	SSW to SE airs and brzs							ACu; CiCu	9- 1		0	Very heavy dew and mist early, and perhaps rain
30	747.3	12.8	61	21.0	4.0			Lt	to gtl NNE to NW brzs							Ci	1- 3	Ci	1- 3	Dew
31	749.7	13.4	86	17.2	7.7			Gtl	SE brzs							CiSt; ACu; ASt; Cu	7-10	CiSt; ACu; ASt; Cu	7-10	Dew and mist early
SUM						3.04														
MEAN	745.0	11.0	76	17.7	3.6															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

TABLE 31

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	226	241	254	254	267	282	288	300	327	309	284	280	267	249	238	245	249	238	232	215	215	210	210	256	256	0
2	✓	✓	✓	262	236	245	232	245	264	284	291	302	286	286	262	249	241	221	213	225	234	228	236	230	228	249	264	251	0
3	✓	✓	✓	249	215	212	200	197	189	162	170	185	260	286	304	307	290	260	240	234	230	234	249	256	262	282	245	238	0
4	✓	✓	✓	230	230	230	230	219	228	254	260	339	378	392	389	371	350	339	325	314	304	318	280	256	234	249	230	290	0
5	✓	✓	✓	238	266	290	307	304	316	338	348	397	378	304	279	245	223	212	208	206	210	217	245	290	282	300	309	280	0
6	✓	✓	✓	332	347	343	338	354	354	339	354	361	343	275	286	275	249	234	234	238	238	267	264	300	327	341	352	306	0
7	✓			357	332	322	336	375	395	399	428	423	409	368	314	262	232	230	226	223	226	226	249	304	302	291	309	314	–
8				373	370	322	322	334	377	460	485	508	496	—	—	341	249	—	—	199	—	—	—	—	223	253	322		–
9	✓			354	341	336	245	170	195	154	195	131	152	(144	137)	139	141	139	139	152	170	177	174	177	197	223	241	193	1
10	✓	✓	✓	273	286	307	323	334	334	364	404	428	375	293	238	215	210	210	212	179	193	230	253	247	247	269	320	281	0
11				291	297	286	288	291	—	—	—	—	327	—	—	—	—	—	—	—	—	—	—	—	271	280	271		1
12				282	264	247	245	238	230	—	—	—	—	—	—	—	—	—	—	152	152	—	—	—	—	—	199		–
13	✓			185	177	174	170	174	174	187	189	189	168	170	172	168	160	166	170	162	174	170	177	191	187	177	212	177	–
14	✓	✓		208	193	174	177	176	181	191	200	230	295	293	249	241	240	228	215	212	236	226	213	193	166	193	208	214	0
15	✓	✓		212	212	230	253	300	304	307	322	359	322	302	279	254	249	249	(245	243	240)	238	223	166	185	200	251	256	0
16				304	325	354	361	355	347	338	339	—	—	—	236	241	243	234	240	245	213	210	234	251	260	267	275		0
17				266	307	—	—	—	—	—	—	—	—	215	208	193	168	162	168	154	152	154	170	177	193	193	206		0
18	✓	✓	✓	228	254	251	230	264	251	304	311	293	273	226	193	189	170	174	174	166	162	156	156	154	143	160	146	210	0
19				—	—	—	—	—	—	—	—	—	193	193	181	193	195	197	195	219	245	249	249	238	256	282	290		0
20	✓	✓	✓	304	322	290	284	314	327	332	359	373	357	290	282	282	275	267	267	271	240	249	304	275	264	267	286	295	0
21				279	249	264	280	267	264	253	179	195	166	197	208	156	212	133	144	148	154	158	148	158	141	135	112		1
22	✓			150	131	81	119	160	168	168	172	121	135	131	(135)	137	(150	133)	119	137	139	(146	154	162)	170	170	172	144	1
23	✓			189	208	230	232	269	286	286	290	275	226	195	197	193	185	174	170	174	176	181	200	212	225	154	174	213	1
24				230	225	256	297	290	279	286	290	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
25				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	213		2
26	✓			228	238	247	247	234	238	236	206	199	185	154	156	158	156	154	162	170	100	150	154	156	156	158	168	184	1
27	✓	✓		170	174	174	189	195	223	241	271	271	195	170	160	170	158	158	166	158	172	174	174	189	189	230	245	192	0
28	✓	✓		249	277	300	318	[325	249	241	307]	322	314	271	234	212	199	177	162	160	170	170	189	208	230	215	212	238	0
29	✓	✓		[139	135	85	131	77	143	215	230	185	230]	266	225	215	(208	202	195)	189	212	210	212	174	179	191	223	186	0
30	✓	✓		251	269	269	295	322	339	336	341	355	309	286	267	253	223	195	193	193	204	212	225	230	212	154	197	255	0
31	✓			170	212	275	247	193	195	197	212	221	200	195	208	204	197	212	208	177	166	158	154	162	154	143	143	192	0
MEANS * 22 DAYS				237	241	242	244	249	256	265	280	286	277	254	238	228	216	208	204	201	202	208	214	216	216	219	235	235	
MEANS † 15 DAYS				238	244	244	251	260	266	280	298	315	308	282	255	256	236	224	220	216	219	224	229	226	224	234	250	250	
MEANS ‡ 9 DAYS				260	266	269	266	278	283	296	311	334	329	293	268	278	251	239	235	231	228	237	245	247	244	259	268	267	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 32

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	181	218	227	231	233	254	272	273	302	279	273	278	273	244	236	216	213	218	201	187	190	185	175	230	233	0
2	✓	✓	✓	247	230	247	223	217	236	249	259	265	273	279	256	243	233	216	206	200	201	201	216	207	195	213	227	231	0
3	✓	✓	✓	224	194	191	178	175	172	156	159	190	244	273	288	289	272	244	230	224	221	220	218	233	239	240	220	221	0
4	✓	✓	✓	226	217	242	218	213	213	230	218	319	357	371	386	358	337	316	288	270	280	296	269	253	217	236	221	273	0
5	✓	✓	✓	231	250	290	306	312	312	328	357	396	375	308	288	247	223	210	203	190	198	200	216	243	256	272	273	270	0
6	✓	✓	✓	325	345	360	348	360	371	354	364	351	339	286	299	288	250	231	216	204	206	242	230	276	337	351	365	304	0
7	✓			377	361	355	361	410	432	432	457	441	431	396	347	298	257	242	224	221	216	216	242	276	290	302	303	329	–
8				355	373	360	345	360	386	504	542	538	536	—	—	377	270	(240	229)	206	—	—	—	—	208	230	314		–
9	✓			337	345	339	237	143	162	≷113	146	146	126	(128	128)	128	131	128	128	128	128	113	113	126≶	144	161	213	166	I
10	✓	✓	✓	375	377	392	276	305	316	339	394	400	362	295	230	190	190	187	172	142	170	201	195	214	217	230	273	268	0
11				262	270	259	270	262	211	218	282	309	351	(344	335)	328	(293)	260	265	288	279	259	256	254	273	265	259		1
12				250	223	213	201	201	190	—	—	—	—	—	—	—	—	—	—	≷124	128	118	125	125	120	116≶	144		–
13	✓			128	112	95	107	102	128	131	137	138	143	156	152	159	152	144	143	134	130	126	140	155	146	136	177	136	–
14	✓	✓		168	162	140	142	143	158	159	161	204	273	265	236	221	227	216	201	203	216	197	187	172	144	161	174	189	0
15	✓	✓		181	178	201	237	273	272	296	302	352	329	299	286	270	262	259	(244	230	217)	203	190	143	172	172	227	241	0
16				295	305	345	342	345	326	309	—	—	—	—	—	—	—	230	233	216	208	198	230	239	247	247	270		0
17				266	302	332	342	371	386	403	435	447	348	249	216	187	158	158	152	142≶	134	128	128	130≶	164	155	155		0
18	✓	✓	✓	181	201	216	190	242	216	239	276	265	246	187	174	172	161	161	158	146	143	138	128	131	134	149	137	183	0
19				137	152	170	171	201	203	213	190	200	180	175	181	178	185	182	184	198	216	201	207	204	216	244	259		0
20	✓	✓	✓	280	289	259	260	299	299	315	344	357	348	306	288	288	276	263	259	252	242	244	290	253	254	259	265	283	0
21				246	244	273	269	260	257	273	272	—	—	—	≷216	—	(220	191)	156≶	149	143	142	119	140	100	128	—		1
22	✓			124	124	113	106	156	159	150	108	104	124	122	(128)	136	142	130	(125)	122	130	(138	142	137)	131	114	122	129	1
23	✓			128	168	190	188	220	244	242	250	244	204	188	195	187	187	187	175	167	158	154	164	172	182	143	158	187	1
24				217	216	256	265	256	247	247	262	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
25				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	170		2
26	✓			188	203	218	201	206	216	200	187	182	168	159	158	167	171	158	156	146	154	126	131	125	118	119	125	166	1
27	✓	✓		114	124	128	137	146	174	197	214	181	146	148	143	143	154	134	143	134	125	108	128	128	140	187	221	150	0
28	✓	✓		216	259	275	316	⌈331	254	270	316⌋	326	292	259	218	197	187	168	158	143	131	128	143	155	187	175	158	219	0
29	✓	✓		⌈108	101	70	101	70	138	195	200	149	185⌋	229	201	198	(193	188	182)	178	190	187	175	143	143	148	190	161	0
30	✓	✓		216	242	244	273	318	338	329	319	309	302	288	276	262	244	220	201	188	188	181	185	(204)	187	125	167	242	0
31	✓			125	187	213	188	138	138	131	146	172	184	187	190	187	182	188	187	158	155	140	130	131	128	113	122	159	0
MEANS * 22 DAYS				213	222	228	219	228	236	242	254	263	260	246	234	223	212	201	192	182	183	180	183	185	188	190	208	216	
MEANS † 15 DAYS				218	226	232	229	242	248	262	277	291	290	271	256	243	230	217	205	194	196	196	197	196	200	206	223	231	
MEANS ‡ 9 DAYS				252	258	269	248	262	265	276	294	316	314	286	276	261	243	229	216	205	209	216	217	222	226	236	246	252	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 33

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	114	87	95	110	114	81	81	110	114	100	93	89	93	98	112	114	116	104	89	93	116	116	[91	63]	100	0
2	✓	✓		[49	47	59	61	71	68	71]	89	84	65	59	63	61	63	65	71	71	68	71	73	87	89	63	79	69	0
3	✓			73	63	54	65	63	47	44	52	54	49	56	59	59	68	71	81	84	65	65	52	47	42	47	49	59	0
4	✓	✓	✓	44	44	40	30	30	30	30	35	25	49	77	81	81	87	91	91	95	95	91	49	44	49	77	87	60	0
5	✓	✓	✓	68	77	77	77	63	25	25	49	73	77	81	91	73	73	87	81	81	68	59	68	87	73	73	73	70	0
6	✓	✓	✓	73	63	54	59	61	49	52	61	73	73	73	77	91	81	87	91	87	73	68	59	54	40	40	40	66	0
7				—	—	—	—	—	—	—	—	—	—	—	Z	Z	Z	Z	Z	Z	Z	Z	N 28	N 47	25	47	N 52		2
8				49	Z	Z	Z	Z	Z	Z	Z	120	120	Z	Z	Z	98	79	91	89	93	87	84	79	56	52	56		2
9	✓	✓	✓	47	54	47	54	59	49	52	56	56	63	79	95	89	98	100	112	114	104	93	73	73	59	68	56	73	0
10				56	44	52	44	54	52	65	79	91	87	84	Z	Z	Z	Z	Z	Z	Z	68	Z	Z	Z	Z	Z		2
11				35	25	35	35	21	40	25	95	Z	Z	Z	Z	Z	Z	Z	Z	Z	95	75	75	75	65	63	81		1
12	✓	✓	✓	63	68	84	65	71	63	73	68	73	81	91	81	77	77	81	81	87	87	68	59	54	68	63	54	72	0
13				30	40	30	—	—	—	—	44	63	77	91	100	95	110	95	110	123	—	—	—	—	68	81	91		
14	✓	✓	✓	81	91	81	77	81	77	68	73	68	63	68	68	73	87	81	91	95	77	63	65	75	63	61	61	74	0
15	✓	✓	✓	61	68	71	75	63	65	61	61	54	47	61	63	77	79	87	87	91	81	73	73	73	73	77	73	71	0
16	✓	✓	✓	87	81	73	63	54	54	68	68	77	81	81	81	95	87	81	81	87	77	73	77	73	73	77	81	76	0
17	✓	✓	✓	87	77	73	77	68	68	54	63	91	87	81	77	73	73	68	73	73	77	77	73	77	77	73	49	74	0
18	✓			59	63	68	54	59	59	77	59	68	73	73	73	77	77	81	81	87	87	91	77	87	81	68	73	73	0
19				68	68	59	54	49	40	44	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	95	93	87	91	87	84		2
20	✓			77	87	79	68	71	63	54	59	65	63	65	75	71	91	110	110	106	112	95	87	84	77	71	71	80	0
21				68	59	47	49	49	52	54	65	56	73	61	77	87	84	87	89	98	Z	Z	Z	Z	Z	Z	77		2
22				116	116	114	114	112	95	61	110	116	130	Z	Z	132	Z	Z	Z	154	Z	Z	59	95	[42	49	52]		1
23	✓	✓		[52	44	54	54	44	40	44	54]	81	65	87	91	98	95	104	100	104	102	104	98	91	87	104	110	79	0
24	✓	✓	✓	127	114	95	123	137	118	118	123	110	95	91	91	95	87	87	91	87	81	87	87	91	95	91	81	100	0
25				73	59	44	—	—	—	—	68	73	81	91	87	87	87	91	87	91	73	59	68	81	87	87	87		0
26	✓	✓	✓	91	87	87	87	87	73	77	77	68	54	49	49	54	63	68	77	73	59	59	68	68	81	95	127	74	0
27	✓	✓	✓	150	150	118	95	87	73	68	63	63	63	68	68	68	68	81	73	81	68	63	89	77	59	61	61	80	0
28	✓	✓	✓	73	81	61	63	61	56	59	61	61	65	79	84	84	81	93	93	98	91	87	63	33	44	63	68	71	0
29	✓			63	63	68	63	N 95	44	54	65	54	63	68	63	77	91	87	91	91	91	89	91	81	73	73	91	75	1
30				110	Z	Z	162	166	114	132	110	N 91	114	118	87	91	114	132	Z	Z	123	110	120	Z	Z	114	Z		1
31	✓	✓		N 25	40	63	63	49	49	44	87	84	89	91	84	75	71	89	87	84	79	84	81	79	71	65	47	70	1
MEANS * 21 DAYS				74	74	71	71	71	60	61	68	71	70	75	76	78	81	86	88	90	83	79	74	74	71	71	71	74	
MEANS † 17 DAYS				76	75	72	73	71	61	61	70	74	72	77	78	80	80	86	88	90	82	77	73	74	72	73	71	76	
MEANS ‡ 14 DAYS				83	82	75	75	74	63	63	69	72	71	77	78	80	81	86	88	90	82	75	71	71	69	72	70	76	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VAL

TABLE 34

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1924

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR. VEL.	08h–09h DIR. VEL.	14h–15h DIR. VEL.	20h–21h DIR. VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	750.3	12.4	59	17.8	5.5			Gtl to mod S to SE brzs				Ci; CiSt; ASt; ACu	1- 3	Ci; CiSt; ASt; ACu	1- 3	Dew early
2	751.5	11.4	70	20.7	3.1			Gtl to mod SE brzs				ASt	1- 3	ASt	1- 3	Dew early
3	749.6	14.0	65	25.6	4.9			Lt NE brzs					0		0	Dew early
4	747.0	13.2	91	20.5	4.0			Lt N and SW airs				Nb; CuNb	7-10	Nb; CuNb	7- 8	Heavy fog till 9h5
5	748.6	11.8	70	18.3	3.0			Gtl E to SE brzs					0		0	Dew early
6	745.1	12.4	52	22.4	2.1			Lt NNE brzs					0		0	Dew early
7	733.3	14.8	82	20.2	1.7			Fr NW wind in am, SW in pm				Cu; FrCu; CuNb	4-10	CuNb; Nb	10	Dew early; heavy rain in late am and at times in pm
8	738.1	9.6	78	12.6	5.0	0.88		Gtl to mod SW brzs				FrCu; CuNb; Nb	6-10	FrCu; CuNb; Nb	7-10	Rain at intervals all day; clear at night
9	742.7	9.7	77	16.8	2.0	0.02		Lt N brzs				FrACu; StCu	1- 3		0	
10	739.0	13.5	86	16.8	4.2	0.03		Lt to gtl NNW to W brzs				Cu; CuNb	10	Cu; CuNb	10	Frequent showers
11	741.0	10.0	88	11.4	7.9	0.67		Mod WSW brz in am, lt in pm				Cu; CuNb	10	Cu; CuNb	7-10	Frequent showers in am; occasional in pm
12	748.4	8.2	82	12.2	0.3	0.09		Lt ENE brz in am, SW in pm				ACu; ASt; Cu; St	2- 6	ACu; ASt; Cu; St	4- 6	Frost early
13	751.0	11.2	75	14.9	1.3			Lt NNE airs in am, SW in pm				ASt; Cu	3- 6	ASt; Cu	4- 6	Dew early
14	748.1	10.2	74	18.6	0.8			Lt ENE airs					0		0	Dew early
15	743.4	11.1	59	22.9	0.6			Lt NNE to N and W brzs				ASt; ACu	1- 3	ASt; ACu	1- 3	Dew early
16	744.4	13.6	70	19.4	3.6			Lt SSE to SW brzs				ASt; ACu	1- 3	ASt; ACu	1- 3	Dew early
17	745.0	12.0	76	18.4	1.9			Lt SE brz in am, SW in pm				St	1- 3		0	Dew early
18	742.7	12.4	70	19.5	-0.2			Lt ENE brz in am, NW in pm					0		0	Frost early
19	734.8	11.6	93	15.6	4.1	0.37		Gtl to mod NW to SW brzs				Nb	10	Nb	10	Heavy rains in early am; showers at intervals later
20	743.1	9.5	79	15.3	-0.5	0.10		Lt to gtl N to NW brzs				Cu; FrCu; StCu	7-10	Cu; FrCu; StCu	7-10	
21	739.3	11.5	75	16.1	4.0	T		Gtl to mod NNW and NW brzs				CiCu; FrACu; Nb	7-10	FrACu; Cu; Nb	7-10	Rain in late pm and at night
22	739.3	11.5	66	13.2	5.2	0.45		Fr W to SW winds				CiSt; FrCu; CuNb	7-10	CiSt; FrCu; CuNb	7-10	Occasional showers
23	744.0	11.0	83	14.7	3.5	0.03		Lt N to NW brzs				Cu; CuNb	7-10	Cu; CuNb	7-10	
24	746.5	14.0	60	14.3	6.9	0.04		Mod SSW brzs				ACu; ASt	7-10	ACu; ASt	7-10	Dew early
25	750.6	9.0	61	16.3	-0.1			Gtl E brz into pm, then SE				ACu; ASt	7- 8	ACu; ASt	7- 8	Frost early
26	749.7	9.2	68	19.5	0.5			Lt N to NE airs				ACu; ASt	7-10	ACu; ASt	7-10	Dew early
27	749.3	14.6	41	23.3	1.2			NE gusts, otherwise calm					0		0	Dew early
28	745.1	15.0	66	23.9	1.7			Lt NNW brz in am, WSW in pm				ACu; ASt	1- 3	ACu; ASt	4- 6	
29	741.0	15.9	77	22.7	8.7			Mod NNW brz in am, SW in pm				ACu; ASt; Cu; CuNb	7-10	ACu; ASt; Cu; CuNb	4- 6	Dew early
30	737.8	13.6	83	15.4	10.3	0.23		Mod W brz				ACu; Cu; CuNb	7-10	ACu; Cu; CuNb	7-10	Frequent showers
31	744.2	11.8	75	16.7	5.0	0.14		Lt SE brz in am, SW in pm				StCu; FrCu; CuNb	1- 8	StCu; FrCu; CuNb	7- 8	A few mist-like showers
SUM						3.05										
MEAN	744.3	11.9	73	17.9	3.3											

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

TABLE 35

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	160	161	160	171	175	192	196	177	183	183	194	204	226	200	175	163	163	161	167	165	154	121	131	138	172	0
2	✓	✓		144	160	158	161	175	184	190	196	235	297	310	299	308	290	267	266	271	252	245	(241	237	234)	230	230	232	0
3				234	—	—	—	—	—	—	—	—	326	266	271	254	247	251	—	—	—	222	243	267	269	281	267		0
4	✓	✓	✓	290	308	294	344	330	308	326	256	241	256	219	196	196	188	181	177	173	177	177	217	163	144	146	158	228	0
5	✓	✓	✓	179	160	144	154	175	200	232	239	275	252	237	(234	230)	226	234	232	230	217	226	184	205	211	200	219	212	0
6	✓	✓	✓	234	252	288	294	326	351	362	355	340	312	277	252	215	230	211	204	211	215	234	254	273	292	324	330	276	0
7				342	337	351	391	384	362	292	301	301	234	—	—	—	—	—	—	—	—	—	—	—	186	183	165		2
8				177	177	90	98	181	140	175	158	175	186	177	169	158	173	171	175	177	181	196	207	222	260	273	279		2
9	✓	✓	✓	299	322	328	330	315	328	322	312	310	277	224	200	190	173	158	148	158	158	173	196	211	219	230	252	243	0
10	✓			271	286	286	286	251	249	226	215	205	200	192	156	175	173	154	113	127	154	163	160	68	113	177	119	188	2
11	✓			173	169	177	167	169	169	171	173	167	144	150	156	167	161	177	161	171	173	181	188	196	217	222	215	176	1
12	✓	✓	✓	249	249	235	252	271	275	249	243	222	209	196	192	173	(173	173	173)	173	181	194	207	213	219	219	232	216	0
13	✓			266	252	269	262	290	362	342	364	290	234	213	196	179	177	177	163	158	173	165	138	179	188	177	177	225	—
14	✓	✓	✓	194	196	226	252	256	264	267	256	301	273	258	237	232	222	219	215	219	215	215	235	215	215	234	247	236	0
15	✓	✓	✓	237	230	219	230	237	252	269	304	348	353	357	315	275	251	230	220	215	215	226	234	204	183	179	173	248	0
16	✓	✓	✓	175	179	196	196	200	196	204	226	204	177	177	177	175	169	161	160	163	171	177	179	181	196	188	179	184	0
17	✓	✓	✓	175	181	181	183	196	207	247	254	226	200	198	188	177	175	177	175	177	167	173	177	196	205	211	308	198	0
18				—	—	—	—	—	—	—	—	—	219	—	—	—	—	—	—	154	161	177	—	—	—	252	252		0
19				237	243	275	315	308	308	254	175	88	160	—	—	—	158	158	156	—	—	—	—	—	—	—	—		2
20				—	—	—	—	—	—	—	—	—	—	230	200	188	177	171	169	156	169	177	200	209	230	245	256		0
21	✓			267	297	297	297	288	271	256	245	224	207	175	181	161	150	150	144	156	154	64	129	133	100	127	150	193	2
22	✓			138	146	158	158	165	175	165	167	161	161	154	161	161	161	165	158	158	158	161	173	173	177	177	181	163	1
23	✓	✓		194	204	204	215	234	271	254	235	252	230	215	184	171	158	158	156	154	156	158	158	161	156	163	161	192	0
24	✓	✓	✓	156	163	177	177	173	169	163	158	173	175	158	158	160	161	169	158	160	160	158	161	173	163	173	173	165	0
25	✓			183	177	188	215	249	266	271	290	234	215	204	207	215	213	198	192	196	200	215	204	186	196	200	200	213	0
26	✓	✓	✓	202	215	226	243	251	260	251	266	304	319	331	306	284	(266	234	200	188)	215	204	207	194	202	184	146	237	0
27	✓	✓	✓	138	154	192	252	256	275	290	308	310	301	271	254	252	251	252	226	219	207	215	165	215	267	286	271	243	0
28	✓	✓	✓	273	286	340	340	328	344	330	322	295	281	251	198	194	177	161	119	161	167	163	177	184	181	(228	232)	239	0
29				—	—	—	—	—	—	—	—	—	215	194	181	140	138	142	140	142	154	160	160	175	177	177	158		1
30				138	—	—	—	—	—	—	—	—	156	150	152	142	138	146	138	150	154	160	165	167	161	158	138		1
31	✓	✓		138	144	158	158	158	163	177	181	175	177	184	181	177	173	173	173	161	167	173	165	177	192	179	192	171	1
MEANS * 23 DAYS				206	213	222	232	238	249	250	250	247	236	224	210	204	196	189	178	181	183	184	188	187	191	199	204	211	
MEANS † 17 DAYS				202	210	219	232	239	249	255	252	258	251	239	222	214	205	196	186	188	188	193	195	197	200	206	214	217	
MEANS ‡ 14 DAYS				212	218	229	244	249	259	265	263	267	255	239	222	213	204	195	184	186	188	193	197	199	203	210	218	221	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 38

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	129	129	131	134	150	166	163	147	150	166	183	197	222	194	165	155	149	131	128	147	134	96	89	104	148	0
2	✓	✓		115	121	129	134	145	158	152	166	222	288	320	314	328	305	271	271	271	240	209	(206	203	200)	202	203	216	0
3				208	205	—	—	—	—	—	—	320	331	288	288	271	258	252	—	—	—	197	225	255	257	254	255		0
4	✓	✓	✓	283	286	258	299	299	292	297	238	198	262	191	178	189	178	172	165	157	149	144	(136	120)	115	123	129	202	0
5	✓	✓	✓	131	118	102	112	131	161	180	194	272	255	254	(251	249)	248	248	242	232	223	206	171	188	202	197	217	199	0
6	✓	✓	✓	242	266	295	338	363	378	382	376	355	347	288	268	238	243	222	225	226	209	(228	246	266)	285	326	325	289	0
7				344	334	361	397	393	358	285	292	299	226	—	—	—	—	—	—	—	—	—	—	—	136	129	131		2
8				155	≷121	163	161	117	101	113≷	118	—	—	—	—	—	—	—	—	—	131	128	136	157	235	234	228		2
9	✓	✓	✓	258	274	306	302	295	302	291	299	295	272	225	209	198	177	161	145	144	142	134	169	183	194	195	225	225	0
10	✓			246	255	257	255	229	223	195	177	186	178	169	177	141	149	≷141	137	126	128≷	133	145	≷183	178	133	195≷	181	2
11	✓			129	131	121	134	133	113	117	115	≷128	134	145	144	117	141	152	145	129≷	126	115	141	145	172	194	158	137	1
12	✓	✓	✓	180	186	181	191	194	203	194	205	209	178	161	171	169	(172	165	160)	157	147	158	150	165	178	180	194	177	0
13	✓			254	226	206	195	225	291	315	311	269	208	192	185	180	172	168	155	142	145	144	109	133	141	133	144	193	–
14	✓	✓	✓	149	150	194	211	234	243	246	240	265	246	255	254	237	220	211	203	178	191	191	189	183	194	211	228	213	0
15	✓	✓	✓	225	208	203	211	231	242	243	283	323	360	361	319	271	255	240	215	206	191	198	212	191	169	160	158	236	0
16	✓	✓	✓	149	158	171	166	181	180	183	192	183	175	178	180	174	177	163	147	147	144	136	134	137	149	149	147	162	0
17	✓	✓	✓	147	158	160	158	178	177	206	197	166	169	180	177	181	177	169	168	163	142	133	134	147	160	178	223	169	0
18				209	205	191	211	223	205	177	286	234	209	—	—	—	—	—	—	165	150	147	(147	160	166)	218	220		0
19				209	212	240	—	—	—	—	—	—	—	—	—	134	118	129	128	133	131	118	115	131	133	144	131		2
20				189	165	163	195	211	269	306	326	289	242	225	208	181	177	165	163	160	147	133	149	160	177	195	205		0
21	✓			228	266	271	272	258	243	229	214	200	194	177	178	165	160	150	150	150	161	≷203≷	142	≷129	163≷	136	131	190	2
22	✓			115	115	117	107	112	102	101	128	136	131	141	136	147	≷115	109≷	113	123	113	118	115	115	112	125	128	120	1
23	✓	✓		141	133	133	133	123	136	178	171	217	211	197	181	169	163	149	147	141	134	139	134	147	145	133	131	154	0
24	✓	✓	✓	125	120	129	112	99	102	101	102	131	142	147	149	152	147	153	145	147	136	133	137	136	131	125	129	130	0
25	✓			136	144	147	186	195	223	240	271	237	212	212	220	225	218	188	192	181	183	186	174	163	155	160	161	192	0
26	✓	✓	✓	163	194	205	215	231	242	231	240	277	314	340	317	300	(291	255	222	197)	211	192	180	178	175	163	129	228	0
27	✓	✓	✓	102	115	147	212	249	260	306	317	308	302	291	275	274	271	257	234	215	195	198	166	191	245	255	288	236	0
28	✓	✓	✓	268	257	312	280	325	375	352	334	305	282	249	198	209	206	181	120	157	150	136	131	147	137	177	180	228	0
29				183	203	209	209	189	211	246	240	266	217	192	191	149	134	147	149	141	145	144	144	145	165	163	137		1
30				128	160	150	113	99	113	101	120	134	129	118	137	136	131	129	128	93	121	117	115	109	117	117	99		1
31	✓	✓		129	118	115	101	99	97	115	129	149	147	158	163	166	165	155	149	144	141	131	131	133	136	134	147	136	1
MEANS * 23 DAYS				176	179	187	194	203	213	218	219	225	225	218	210	204	198	185	174	169	162	161	156	162	167	169	177	190	
MEANS † 17 DAYS				173	176	187	195	207	218	225	225	237	242	234	224	219	211	196	183	178	169	164	163	168	171	176	186	197	-
MEANS ‡ 14 DAYS				182	187	200	210	226	237	241	240	246	248	236	224	219	211	197	182	177	169	165	164	169	174	181	191	203	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 37

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[52	40	62	36	60	64	46]	60	62	81	52	74	124	93	81	84	76	88	88	78	[52	30	26	69	66	0
2	✓	✓		[42	38	54	88	74	58	48]	84	78	72	74	64	66	69	72	84	90	86	84	90	86	74	78	84	72	0
3	✓	✓	✓	84	64	62	74	74	60	69	54	50	50	48	50	58	58	72	66	66	66	64	86	95	86	81	86	68	0
4				66	62	58	62	52	58	42	42	48	48	52	58	66	66	66	81	72	62	52	66	Z	Z	Z	66		1
5				Z	N 36	N 18	69	72	66	42	46	38	42	48	60	64	66	72	84	72	74	62	60	42	48	33	—		1
6				—	—	—	—	—	—	—	—	72	76	72	66	66	69	74	78	88	86	84	69	64	58	64	58		—
7				42	40	38	33	98	—	—	—	Z	Z	Z	86	90	90	95	95	86	100	90	76	81	66	66	—		1
8				—	—	—	—	—	—	—	—	—	Z	Z	Z	88	Z	Z	88	81	81	76	74	72	74	54	48		1
9				[36	36	21	36	36	30	21]	60	66	66	66	66	62	86	Z	Z	75	72	66	62	62	76	62	52		1
10	✓	✓	✓	52	66	62	62	66	58	33	86	66	62	62	66	72	72	76	81	81	86	76	76	62	48	62	62	66	0
11	✓	✓		62	60	60	50	54	42	38	48	62	72	72	90	76	81	86	72	72	76	58	58	[38	18	33	28	59	0
12	✓	✓		[38	14	38	14	72]	105	105	129	84	95	78	72	74	84	81	81	81	78	69	69	66	66	69	54	72	0
13	✓	✓		[50	66]	93	107	74	72	60	84	98	90	84	93	90	93	107	105	105	93	88	78	69	72	74	62	84	0
14	✓	✓	✓	72	74	86	95	95	66	58	81	72	72	66	72	76	90	95	90	76	76	81	(86	90)	95	100	95	82	0
15	✓	✓	✓	105	119	119	110	95	90	76	66	58	62	72	72	76	81	90	86	95	100	95	105	90	95	119	119	91	0
16	✓	✓		95	58	72	66	48	24	33	72	95	81	76	86	90	90	100	100	100	105	100	[157	157	129	124	115	91	0
17	✓	✓		[139	124	171	157]	105	95	72	100	100	100	90	86	81	86	81	86	90	90	76	72	66	66	54	62	94	0
18				64	62	76	102	115	90	N 66	9	157	115	95	93	95	102	124	Z	Z	157	141	112	95	110	50	—		1
19				—	—	—	—	—	—	—	115	105	95	90	90	95	100	115	100	95	100	90	90	95	72	72	[52		—
20	✓	✓		[33	28	36	48	42	64	24]	90	86	64	69	72	76	86	90	110	110	100	93	90	90	93	88	95	74	0
21	✓	✓	✓	78	78	95	124	90	76	52	66	64	69	76	84	86	98	112	127	119	84	93	112	98	95	100	100	91	0
22	✓	✓	✓	115	136	129	117	88	84	88	86	66	62	66	64	76	86	105	95	112	117	74	76	72	66	58	81	88	0
23	✓	✓		[42	72	58]	90	157	24	72	95	81	76	86	95	100	81	78	60	143	78	86	78	86	102	88	86	84	0
24				86	—	—	—	—	—	—	—	76	86	95	90	95	86	90	90	90	86	72	81	81	66	62	72		0
25				62	—	—	—	—	—	—	—	129	81	69	78	69	69	76	98	105	102	86	69	[64	30	40	33		0
26	✓	✓		[58	48	52	42	38	24	24]	86	95	72	86	72	72	66	72	66	66	72	76	72	72	58	42	42	61	0
27				[28	24	24	24	28]	—	—	48	62	66	66	72	72	72	76	81	81	72	62	72	115	115	95	86		0
28	✓	✓	✓	90	105	90	86	76	76	58	48	48	46	52	52	58	66	69	62	64	62	42	52	62	62	58	58	64	0
29	✓	✓	✓	58	58	52	58	42	38	38	48	52	48	48	48	52	52	52	58	60	62	64	66	86	90	90	88	59	0
30	✓	✓		88	112	[66	50	54	24	33]	84	64	54	52	58	62	69	72	74	74	76	86	90	84	76	78	76	69	0
31																													
MEANS * 19 DAYS				71	72	77	78	74	60	54	77	73	70	69	72	77	79	84	84	88	84	79	84	80	75	75	77	76	
MEANS † 19 DAYS				71	72	77	78	74	60	54	77	73	70	69	72	77	79	84	84	88	84	79	84	80	75	75	77	76	
MEANS ‡ 8 DAYS				82	88	87	91	78	68	59	67	60	59	61	64	69	75	84	83	84	82	74	82	82	80	84	86	76	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 38

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1924

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h	08h–09h	14h–15h	20h–21h	FORENOON		AFTERNOON		
								DIR. VEL.	DIR. VEL.	DIR. VEL.	DIR. VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	746.9	14.4	69	15.6	7.1	T		LT NW brz in am, SW in pm				StCu; Nb	1-10	StCu; Nb	7-10	A few scattered showers
2	752.2	10.5	64	15.5	5.6	0.05		Mod SSE to SE brzs				FrCu	1- 3	FrCu	1- 3	
3	749.3	12.8	49	17.3	2.3			Gtl ESE to SE brzs					0	ACu	1- 3	
4	744.9	14.3	36	21.2	3.4			Gtl ENE to NE brzs					0	Ci; CiSt	10	
5	738.8	17.1	37	26.7	9.7			Mod E brz into pm, then SW				ACu; ASt	7-10	ACu; ASt	4- 6	
6	742.4	18.9	70	23.3	9.8			Gtl NW brz				FrCu	4- 8	FrCu	6- 8	Dew early
7	741.1	17.6	73	22.2	6.9			Fr N to NW winds				ACu; ASt; CuNb; Nb	7-10	ACu; ASt; CuNb; Nb	7-10	Dew and mist early; rain and thunder in am; rain at night
8	735.4	15.1	90	17.9	8.4	0.23		Gtl to mod NW brzs				ACu; ASt; Cu; Nb	7-10	ACu; ASt; Cu; CuNb	7-10	Raining through early hours; frequent showers all day
9	741.2	13.9	90	19.6	6.0	0.09		Lt E airs to late pm, then S				ACu; ASt; CuNb; Nb	7-10	ACu; ASt; CuNb; Nb	7-10	Occasional light rains; dew in early am
10	745.2	14.0	76	21.4	4.5	0.04		Lt NNE brz to late pm				ASt; Cu	7- 8	Cu	7- 8	Dew and mist early
11	741.5	15.9	75	20.5	8.4			Lt NNE brz in am, gtl NW pm				ASt; ACu; Cu	7-10	ASt; ACu; Cu; CuNb	7-10	Dew and mist early; threatening in late pm
12	740.0	14.8	73	17.1	10.7	0.06		Gtl to mod NW to SW brzs				ACu; Cu; CuNb	5-10	ACu; Cu; CuNb	7-10	Dew and mist early; a few light showers during day
13	745.3	12.1	64	16.2	7.6	0.08		Mod SSW to SW brzs				ACu; Cu	3- 6	ACu; Cu	4- 6	
14	750.5	11.8	62	16.0	1.4			Lt SE brzs				FrCu	1- 3	FrCu	1- 3	Dew early
15	746.3	15.4	44	22.0	1.6			Lt E to SE airs and brzs					0		0	Dew early
16	744.8	13.4	58	22.1	4.0			Lt SE to SW brzs					0	CiSt	7- 8	
17	741.2	16.4	53	22.4	5.4			Lt S to W brzs				StCu	1- 3		0	
18	737.5	15.8	69	16.8	6.9	0.11		Mod WSW to SW brzs				Cu; FrCu; CuNb	5-10	Cu; CuNb; Nb	7-10	Frequent showers
19	740.7	15.0	67	20.6	6.3	0.14		Lt SW brzs in am				FrCu; CuNb; Nb	7-10	CuNb; Nb	7-10	Occasional showers in am
20	740.9	14.7	78	21.7	3.6			Lt NNE airs in am, SW in pm				Cu; FrCu	3- 6	Cu; FrCu	4- 6	Dew and mist early
21	742.9	17.4	70	23.9	4.8			Lt NE to E airs				ACu; ASt	7-10	ACu; ASt	7- 8	Dew early
22	742.2	22.1	47	21.8	9.2			Lt NE brzs in am, NW in pm				ACu; ASt	1- 3	ACu; ASt	1- 3	Dew early
23	742.0	17.1	78	22.3	11.1			Mod W to SW brzs				ACu; Cu; Nb	7-10	CuNb; Nb	7-10	Few drops rain in am; good shower in pm
24	743.0	15.2	63	24.0	6.5	0.03		Lt NE to E airs and brzs				ACu; AStCu	7- 8	ACu; AStCu	4- 6	
25	733.6	17.9	78	20.5	8.8	0.08		Fr to str NW to W winds				ASt; CuNb; Nb	7-10	ASt; CuNb; Nb	7-10	Frequent showers
26	739.1	14.7	84	18.7	9.1	0.09		Gtl to mod SW to SSW brzs				Nb; CuNb	10	CuNb; Nb	10	Several showers during day
27	744.3	14.4	74	20.5	3.9	0.03		Lt SE to S airs and brzs				ACu; Cu; CuNb	10	ACu; Cu	9- 4	
28	745.8	17.9	34	25.1	4.0			Lt NE brz all day, SE in eve					0		0	
29	739.6	19.9	27	27.5	11.2			Gtl NNE brzs in am, then SW				ACu	7-10	ACu	4- 6	
30	742.1	16.0	56	23.6	8.6			Lt S to SW brzs					0		0	
31																
SUM						1.03										
MEAN	742.7	15.6	64	21.1	6.6											

REMARKS: BAROMETRIC PRESSURE, IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

TABLE 39

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		185	174	189	197	193	208	232	260	253	208	176	174	141	150	152	146	154	156	139	160	156	129	115	133	174	0
2	✓	✓		123	135	146	154	162	170	166	174	166	166	(162	160)	156	(150)	143	135	129	121	125	117	127	143	158	170	148	0
3	✓	✓	✓	189	217	234	247	249	260	282	288	267	251	230	208	189	195	191	183	177	181	183	162	146	162	174	174	210	0
4	✓			193	213	245	249	258	269	273	304	271	238	215	(197)	177	176	174	193	193	195	195	150	156	135	164	200	210	1
5	✓			212	223	225	236	251	264	286	338	306	300	280	249	228	213	199	139	174	189	204	215	247	254	230	202	236	1
6	✓			195	193	150	154	174	189	189	191	210	193	195	206	199	191	172	170	154	141	154	166	189	193	200	219	183	–
7	✓			210	193	195	212	135	199	191	187	200	176	154	146	131	133	135	139	141	150	152	177	193	206	193	162	171	1
8	✓			135	160	146	174	143	154	150	154	164	170	177	166	160	137	156	174	174	160	170	158	168	172	179	189	162	1
9	✓			199	212	210	212	210	199	223	267	258	232	181	189	191	(177	164	137)	183	160	158	170	170	154	162	176	191	1
10	✓	✓	✓	168	166	156	144	94	148	160	193	232	253	230	213	200	202	199	181	170	148	152	158	187	215	204	208	183	0
11	✓	✓		202	215	228	275	267	290	286	266	232	204	174	156	137	135	139	152	150	158	154	154	158	154	158	166	192	0
12	✓	✓		154	141	144	144	123	139	144	152	152	154	144	144	143	137	150	144	150	154	166	166	164	156	177	174	151	0
13	✓	✓		158	152	137	144	139	148	154	154	156	168	152	154	152	154	146	158	150	156	160	168	187	187	193	206	160	0
14	✓	✓	✓	197	189	172	156	160	177	191	215	212	200	210	185	172	166	172	166	170	168	158	[154	133	137	150	170]	174	0
15	✓	✓	✓	154	152	250	160	174	177	193	241	258	256	230	213	195	185	185	176	154	133	135	125	141	152	137	119	179	0
16	✓	✓		119	119	121	123	143	152	172	197	166	176	(170	158)	156	(143)	133	131	(117)	117	135	83	81	112	135	139	137	0
17	✓	✓		127	117	104	112	131	160	177	183	162	154	158	160	158	154	146	139	144	148	148	166	189	202	225	230	158	0
18	✓			230	264	249	177	176	204	217	193	166	137	123	131	135	135	121	115	94	139	148	143	154	141	160	162	163	1
19	✓			172	177	176	197	210	193	179	177	177	158	156	144	143	135	148	141	150	139	141	144	160	181	189	210	167	–
20	✓	✓		232	226	166	154	193	181	266	197	195	193	174	158	146	139	135	135	135	135	148	160	170	172	187	179	174	0
21	✓	✓	✓	210	215	177	100	152	172	212	230	232	200	179	154	135	119	112	117	119	135	115	115	158	166	172	172	161	0
22	✓	✓	✓	160	152	166	162	174	197	208	282	284	258	254	232	195	174	92	146	92	110	131	162	208	228	230	228	189	0
23	✓	✓		179	176	174	158	131	133	133	143	141	127	129	133	131	(133	127	119)	139	152	144	146	170	156	158	179	146	0
24	✓			174	162	150	154	162	174	185	199	189	172	158	156	158	160	158	156	154	141	135	141	162	174	183	179	164	0
25	✓			208	230	187	156	139	131	135	121	119	117	127	121	121	133	135	133	135	139	135	135	148	154	156	158	145	0
26	✓	✓		156	152	164	172	172	193	199	197	156	154	154	152	143	137	141	139	144	154	156	174	172	177	193	199	165	0
27	✓			234	266	230	243	279	320	357	338	245	195	177	154	139	150	144	143	139	139	146	158	115	102	121	135	195	0
28	✓	✓	✓	139	137	141	154	176	193	240	290	277	253	226	206	195	181	187	176	174	191	193	187	181	213	230	215	198	0
29	✓	✓	✓	243	269	284	280	284	288	288	249	232	213	202	212	225	230	230	223	219	212	210	202	158	135	137	139	224	0
30	✓	✓		133	131	133	131	137	135	135	137	154	166	156	152	150	(152	150)	148	(137	135)	117	115	148	156	158	150	142	0
31																													
MEANS * 30 DAYS				180	184	182	178	180	194	207	217	208	195	182	173	163	159	155	152	150	152	154	154	163	167	174	178	176	
MEANS † 19 DAYS				170	170	173	167	171	185	202	213	207	198	185	175	164	160	154	153	149	151	151	151	160	166	173	176	172	
MEANS ‡ 8 DAYS				182	187	198	175	183	202	222	248	249	236	220	203	188	182	171	171	159	160	160	158	164	176	179	178	190	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE. ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 40

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		164	123	147	152	151	154	180	213	205	183	183	169	136	134	134	137	136	121	123	134	134	113	116	115	148	0
2	✓	✓		108	115	131	134	147	147	151	170	173	183	(183	183)	183	(176)	162	149	134	133	120	105	113	133	151	144	147	0
3	✓	✓	✓	151	199	218	214	233	244	254	292	276	275	259	238	214	211	200	202	199	197	167	136	126	151	157	156	207	0
4	✓			184	214	235	230	252	264	281	310	288	251	232	216	200	(197	192)	189	194	195	184	146	183	197	200	199	218	1
5	✓			214	218	243	235	256	267	315	356	324	315	312	278	251	241	214	156	195	199	199	202	246	260	213	183	246	1
6	✓			178	167	133	146	154	169	169	172	203	199	214	227	229	214	197	183	159	151	136	139	167	180	165	186	177	–
7	✓			186	164	160	183	90	124	170	157	141	111	156	149	154	152	139	146	147	144	139	139	147	181	172	164	151	1
8	✓			156	123	133	121	120	118	123	141	156	162	167	160	167	156	162	162	164	147	137	133	121	123	137	144	143	1
9	✓			156	180	165	151	159	165	173	200	230	216	195	181	194	(183	176	170)	176	151	137	139	151	131	137	149	169	1
10	✓	✓	✓	149	124	129	118	68	134	159	144	214	259	237	214	214	206	191	183	173	151	139	134	149	180	183	199	169	0
11	✓	✓		(194	205	216	259	251	272	265	246)	213	188	186	169	156	152	164	164	152	154	152	151	149	152	151	151	188	0
12	✓	✓		156	121	115	118	101	98	105	120	133	131	133	134	134	136	137	139	133	133	134	141	147	146	151	137	131	0
13	✓	✓		123	116	106	113	118	120	126	134	137	159	160	159	162	156	152	151	147	137	131	136	139	141	152	181	140	0
14	✓	✓	✓	164	147	121	100	116	151	152	188	218	211	214	200	188	192	186	181	181	181	146	[121	121	120	121	135	161	0
15	✓	✓	✓	134	124	129	142	151	162	172	229	278	267	248	230	214	191	188	181	154	121	128	121	139	139	124	101	169	0
16	✓	✓		87	82	80	98	118	120	151	192	183	192	(197	194)	170	(152)	136	134	(121)	121	131	80	78	101	113	111	131	0
17	✓	✓		82	85	68	73	85	134	157	172	176	156	156	165	169	162	157	149	137	137	133	134	157	183	202	214	143	0
18	✓			218	248	221	157	139	151	195	175	134	134	133	131	136	131	121	120	121	110	98	101	101	101	88	118	141	1
19	✓			118	106	118	131	134	141	124	136	149	137	139	151	151	141	136	129	133	123	124	121	118	134	137	139	132	–
20	✓	✓		178	218	183	165	164	186	259	186	237	210	183	172	164	154	151	137	134	134	120	133	133	134	146	139	168	0
21	✓	✓	✓	165	183	167	101	137	144	154	213	206	183	176	164	151	121	116	103	100	105	118	103	126	134	136	121	143	0
22	✓	✓	✓	113	100	101	118	149	173	175	233	278	273	278	267	229	195	100	170	96	100	121	151	180	225	199	191	176	0
23	✓	✓		147	134	137	139	106	96	98	137	136	121	129	134	133	(151	147	144)	128	141	131	129	103	106	120	134	128	0
24	✓			134	120	105	98	108	133	134	170	164	151	157	160	154	156	151	151	147	133	124	120	128	137	178	169	141	0
25	✓			189	214	165	116	118	120	120	105	115	121	126	129	134	136	124	123	133	118	118	118	120	118	129	120	130	0
26	✓	✓		115	111	101	101	124	149	154	141	144	141	151	154	149	144	137	136	137	134	137	121	126	152	169	183	138	0
27	✓			214	235	246	249	256	292	308	308	225	194	181	156	164	156	142	147	144	137	133	124	105	93	101	108	184	0
28	✓	✓	✓	116	118	134	139	164	181	230	294	299	284	257	233	225	210	197	197	180	181	194	167	165	199	230	227	201	0
29	✓	✓	✓	246	252	265	257	292	307	294	248	244	243	233	241	249	262	265	252	235	222	216	202	152	126	118	113	231	0
30	✓	✓		96	92	101	118	116	118	129	137	167	181	173	165	169	(170	157)	152	(149	141)	111	108	131	134	129	131	136	0
31																													
MEANS * 30 DAYS				154	155	152	149	153	168	183	197	202	194	192	184	178	171	161	158	151	145	139	133	138	147	151	152	163	
MEANS † 19 DAYS				141	139	139	140	147	163	177	194	206	202	197	189	179	172	162	161	149	144	140	132	135	146	151	152	161	
MEANS ‡ 8 DAYS				155	156	158	149	164	187	199	230	252	249	238	223	210	198	180	184	165	157	154	142	145	159	158	155	182	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 41

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	80	78	78	94	80	76	54	72	64	74	76	76	78	74	80	86	92	80	84	86	88	76	78	69	78	0
2	✓			72	N 34	76	-64	26	22	22	104	86	52	66	58	66	52	62	N 38	62	N 52	76	90	76	80	80	58	56	1
3				48	69	64	52	64	46	50	60	60	40	50	64	Z	Z	Z	Z	Z	92	92	84	72	72	72	64		1
4				40	42	36	38	—	—	—	—	—	69	Z	Z	Z	Z	66	62	76	90	84	84	88	86	98	106		1
5	✓	✓	✓	106	102	110	88	86	76	66	60	54	58	62	74	78	88	94	88	80	84	106	84	80	80	84	94	83	0
6	✓	✓	✓	86	94	102	80	62	58	66	60	62	66	64	58	60	60	62	66	62	66	69	86	92	98	86	94	73	0
7	✓	✓	✓	102	110	94	72	72	66	60	80	74	69	72	64	69	69	69	66	84	80	86	76	66	66	66	64	75	0
8	✓	✓	✓	62	64	52	40	38	36	26	42	58	69	74	80	76	84	86	86	88	78	72	62	58	48	38	34	60	0
9				28	34	42	—	—	—	—	—	—	58	66	72	80	72	62	66	90	Z	Z	Z	114	152	128	128		1
10	✓	✓	✓	116	120	120	106	118	114	84	92	106	84	86	86	88	92	86	90	80	78	76	86	88	80	90	102	94	0
11				106	88	78	54	—	—	—	86	90	86	80	76	80	86	90	86	90	94	86	72	86	94	90	80		0
12				62	66	72	66	58	—	—	90	86	72	58	76	80	90	94	94	90	78	76	84	76	78	72	74		0
13				69	64	—	—	—	—	—	88	123	92	62	64	64	74	76	84	88	92	92	90	100	74	80	88		0
14				50	—	—	—	—	—	—	74	116	92	92	86	92	98	102	94	104	110	102	112	98	102	98	86		0
15				78	86	84	80	—	—	—	84	84	84	66	84	86	94	90	90	94	92	92	94	92	90	84	74		0
16	✓			66	69	66	66	74	60	62	69	74	74	74	76	86	100	98	102	102	100	100	92	98	112	100	92	84	0
17				90	69	72	66	52	46	46	50	69	74	48	Z	Z	Z	Z	Z	Z	Z	Z	38	N 52	Z	Z	Z		2
18	✓	✓		N 4	N 14	N 24	N 4	20	42	100	110	100	100	98	100	104	110	114	118	118	123	114	106	110	114	118	114	87	1
19				106	76	94	—	—	—	—	69	86	92	90	76	84	90	98	98	98	100	100	98	88	46	40	34		0
20				—	—	—	—	—	—	—	—	—	94	110	110	104	102	106	102	100	100	112	116	104	64	62	66		0
21	✓	✓	✓	86	118	110	90	76	66	72	58	58	58	62	66	76	90	76	86	76	80	76	80	88	94	100	123	82	0
22	✓	✓	✓	152	132	132	123	120	104	100	90	90	72	74	76	76	76	78	64	48	46	76	N 58	84	76	90	94	89	1
23	✓	✓	✓	110	110	110	118	118	92	86	72	64	60	58	58	64	66	64	72	72	76	62	92	100	114	106	106	85	0
24	✓	✓	✓	128	146	142	138	120	110	94	80	62	58	62	62	66	76	86	88	100	92	98	114	123	138	135	123	102	0
25	✓	✓	✓	128	118	94	76	72	76	74	84	80	72	72	76	76	76	90	76	90	90	94	94	94	94	94	86	86	0
26				90	72	62	66	48	48	48	62	72	90	Z	Z	Z	Z	Z	Z	Z	104	106	112	114	120	Z	112		2
27				138	135	123	123	100	66	88	92	86	80	Z	Z	Z	Z	Z	Z	80	88	78	92	94	90	84	84		2
28	✓	✓	✓	66	66	66	66	62	48	62	62	66	76	76	76	86	90	90	100	104	110	100	90	90	90	94	90	80	0
29	✓	✓	✓	86	80	66	72	48	42	52	52	76	80	90	94	94	94	86	86	90	90	66	92	92	90	100	86	79	0
30	✓	✓	✓	90	88	112	110	120	149	126	138	84	86	84	74	72	78	80	78	84	86	94	104	114	123	114	104	100	0
31	✓	✓	✓	94	100	100	100	86	72	86	90	90	76	94	92	88	76	88	100	92	78	76	88	92	98	94	86	89	0
MEANS * 18 DAYS				91	91	92	77	78	73	72	79	75	71	75	75	78	81	83	83	85	83	85	88	91	93	93	90	83	
MEANS † 16 DAYS				93	96	94	86	81	77	76	78	74	72	75	76	78	81	83	84	85	84	84	87	91	92	93	92	84	
MEANS ‡ 15 DAYS				99	102	99	92	85	79	74	75	73	71	74	74	76	79	81	82	83	81	82	86	90	91	91	90	84	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VAL

TABLE 42

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1924

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR. VEL.	08h–09h DIR. VEL.	14h–15h DIR. VEL.	20h–21h DIR. VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	737.2	16.3	54	22.8	4.7			Lt SE brzs				CiSt	7-10	CiSt	7-10	
2	733.1	15.2	62	17.7	10.7	0.17		Fr to str WSW to SW winds				Cu; Nb	9-10	Cu; Nb	9-10	Heavy winds, with frequent showers
3	740.5	11.6	69	14.4	5.0	0.06		Lt N airs 9h, then SW brzs				Nb; NbSt	7-10	Nb; NbSt	7-10	Frequent showers
4	740.0	14.5	77	16.1	6.3	0.10		Fr W to SW winds				CuNb; Nb	9-10	CuNb; Nb	9-10	Frequent showers
5	743.4	11.4	56	16.8	2.7	0.09		Lt SE to ESE brzs				ACu; ASt	1- 3	Ci; CiSt; ASt	7- 8	
6	742.0	13.9	54	19.1	2.3			Lt, gusty, E to SE brzs				ACu; ASt; Cu	3- 6	ACu; ASt; Cu	4- 6	Dew early
7	743.2	16.4	46	22.9	2.4			Lt N to W brzs					0		0	Dew early; smoke in NW
8	741.1	17.8	60	23.9	1.7			Lt to gtl W brzs				ACu	1- 3		0	Dew early
9	735.8	18.6	66	23.8	6.1			Fr to str NW winds				ACu; Cu	4- 6	ACu; CuNb; Nb	7- 8	Dew early; rain in late pm and evening
10	739.1	14.6	58	17.4	8.5	0.35		Fr W to NW winds				ACu; Cu; CuNb	7-10	ACu; Cu	7-10	One light shower in am
11	741.7	16.8	55	21.0	5.8	0.02		Mod WNW to W brzs				ACu; ASt	7-10	ACu; ASt	7-10	
12	741.1	16.0	79	21.3	9.0	T		Lt to gtl W to SW brzs				CuNb; Nb	7-10	CuNb; Nb	7-10	
13	737.5	17.9	83	21.7	11.4	0.02		Gtl to mod NW to WNW brzs				FrCu; CuNb; Nb	7-10	CuNb; Nb	7-10	Few drops rain early
14	735.7	16.0	64	19.1	12.4	0.10		Str WSW winds				FrCu; CuNb; Nb	7-10	FrCu; CuNb; Nb	7-10	Few showers in early am; heavy winds all day
15	741.3	14.0	63	19.7	4.6	T		Lt to gtl S to SW brzs				FrCu; CuNb; Nb	7-10	FrCu; CuNb; Nb	7-10	
16	743.5	15.5	50	21.7	6.0			Lt NW airs				Ci; FrACu	1- 3	Ci; FrACu	1- 3	
17	738.9	16.5	58	19.4	3.1			Str NW winds in am, SW in pm				CuNb	9-10	CuNb	9-10	Frequent rain squalls during day
18	742.9	12.3	60	17.3	4.1	0.55		Mod S to SW brzs				FrCu; Cu	7- 8	FrCu; Cu	7- 8	Hail early, or during previous night
19	743.1	15.5	66	21.9	7.1			Lt to gtl SE to SW brzs				FrCu; StCu; Nb	7-10	FrCu; StCu	7- 8	
20	743.7	15.7	86	24.5	11.6			Lt to gtl SE brzs				St	10- 7	St	6- 1	
21	742.7	22.4	39	31.5	8.0			Lt NE brz at 9h, later SW				CiSt	1- 3	CiSt	4- 8	
22	739.9	18.8	53	29.0	13.9			Lt SE brz in am, SW in pm				ACu; ASt	10	ACu; ASt	10	
23	740.4	18.0	58	25.0	9.2			Gtl to mod SE to SW brzs				CiSt; ACu	3- 8	CiSt; ACu	7- 8	
24	737.5	20.0	49	28.9	9.7			Calm in am, mod SW brz in pm				CiSt; ACu; ASt	1- 6	CiSt	9-10	
25	738.1	17.2	58	22.7	7.0			Lt to gtl SSW to SW brzs				StCu	10	FrCu	7- 9	
26	736.1	15.6	69	16.6	7.3			Gtl WNW brz early, then SW				ACu; CuNb; Nb	9-10	ACu; CuNb; Nb	9-10	Nearly continuous heavy rain 10h–17h; shower at 22h
27	742.8	14.1	63	16.6	6.6	0.33		Gtl to mod SW to W brzs				ACu; Cu; CuNb	9-10	ACu; Cu; CuNb	9-10	Several good showers
28	741.8	16.3	61	21.1	4.2	0.12		Lt NW brz in am, SW in pm				ACu	7- 9	ACu	7- 9	
29	740.1	16.8	56	21.7	4.4	0.01		Gtl to mod W to WNW brzs				ACu	7- 9	ACu	7- 9	Overcast at night, with rain
30	740.6	16.5	77	21.6	9.8	0.07		Gtl W brz in am, SW in pm				ACu; Cu; CuNb	7-10	ACu	7- 8	Heavy shower after 8h
31	742.2	17.8	49	23.7	4.0	0.01		Lt NNW airs in am, WSW in pm				Ci; CiSt; ACu	4- 6	Ci; CiSt; ACu	4- 6	Dew early
SUM						2.00										
MEAN	740.2	16.1	61	21.3	6.8	—										

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS — 6 MPH; LIGHT BREEZE (LT BRZ) — 12 MPH; GENTLE (GTL BRZ) — 18 MPH; MODERATE (MOD BRZ) — 25 MPH; FRESH (FR) WIND — 30 MPH; STRONG (STR) WIND — 35 MPH; VARIABLE (VAR).

TABLE 43

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	159	159	135	117	137	163	169	167	165	159	153	(147	139)	131	123	125	125	129	141	155	177	167	181	179	150	0
2				155	137	147	(143)	143	145	145	141	143	139	143	145	141	137	141	133	139	139	141	143	147	153	161	161		1
3	✓			163	173	185	193	199	220	218	214	197	187	175	177	159	181	≷143≷	161	≷137≷	155	157	177	197	189	205	197	182	1
4	✓			199	195	193	193	185	183	183	169	161	155	(157)	143	155	155	153	161	145	153	157	159	165	167	181	181	169	1
5	✓	✓	✓	177	171	149	161	167	183	187	199	189	187	179	161	143	119	121	133	137	141	123	161	165	181	183	183	162	0
6	✓	✓	✓	191	177	181	199	216	205	199	220	245	220	214	205	195	197	205	199	199	189	185	167	165	179	179	165	196	0
7	✓	✓	✓	167	163	181	189	183	187	212	201	214	209	201	197	187	(181	163	157)	161	149	147	161	185	201	216	222	185	0
8	✓	✓	✓	241	239	252	294	307	337	378	330	243	187	165	161	155	145	141	139	143	145	159	175	189	214	241	254	218	0
9	✓			258	260	256	175	121	107	101	103	159	155	141	137	139	133	135	125	121	(143	127)	115	119	115	117	123	145	1
10	✓	✓	✓	129	141	141	139	139	145	145	153	153	(155	157)	157	147	143	143	141	147	149	153	165	157	147	161	167	149	0
11	✓			179	205	197	187	197	181	193	201	173	159	155	147	147	153	159	147	157	155	165	165	181	181	189	185	173	0
12	✓			165	177	183	187	189	191	185	171	159	151	157	161	159	147	147	149	157	159	155	157	163	167	185	181	167	0
13	✓			193	195	205	224	181	169	167	161	173	159	147	157	157	151	141	143	123	141	147	157	147	141	143	137	161	0
14	✓			125	125	123	137	139	125	133	131	123	123	135	141	141	(137	137	137)	143	149	147	159	165	175	167	195	142	0
15	✓			207	203	203	209	239	233	258	218	193	179	181	169	165	159	153	153	159	157	161	165	181	191	201	216	190	0
16				235	230	239	241	228	241	258	239	205	199	181	—	—	—	—	—	—	—	159	163	163	191	201	187		0
17	✓			205	241	269	258	279	326	335	296	183	165	(139	135)	≷ 99	141≷	145	145	≷137	147	141≷	151	143	145	≷163	121≷	188	2
18	✓	✓		143	145	≷147	139≷	145	153	159	159	145	157	143	147	143	153	141	143	145	145	149	159	163	165	175	175	152	1
19	✓			165	161	161	155	141	155	173	181	179	179	181	193	181	173	163	165	161	163	165	173	181	163	143	137	166	0
20	✓			109	109	107	123	99	107	133	113	119	137	121	173	179	169	175	163	161	163	185	159	171	169	161	141	144	0
21	✓	✓	✓	125	129	143	183	230	256	286	332	323	298	258	241	222	220	(216	210	205)	201	199	185	181	179	167	145	214	0
22	✓	✓	✓	121	139	145	157	157	161	159	177	163	163	167	173	169	173	167	159	159	157	165	175	163	161	157	161	160	1
23	✓	✓	✓	161	163	157	135	131	135	139	159	173	177	165	163	167	177	167	163	161	149	163	123	117	113	127	139	151	0
24	✓	✓	✓	121	115	137	125	135	143	155	185	233	235	214	201	189	179	161	157	145	137	143	137	129	137	141	145	158	0
25	✓	✓	✓	143	153	181	214	226	230	220	195	179	179	167	159	159	159	151	145	147	157	155	171	193	199	207	226	180	0
26	✓			231	237	241	252	296	328	330	222	171	≷149	151	127≷	149	141	≷121	103≷	147	143	143	141	155	147	133	133	183	2
27	✓			167	139	155	159	181	191	197	181	175	167	151	161	≷121	137	145	125≷	141	151	159	161	179	201	233	241	167	2
28	✓	✓	✓	256	277	294	296	300	328	344	296	226	181	173	169	163	153	155	149	151	157	159	167	183	199	201	218	216	0
29	✓	✓	✓	231	256	277	254	298	319	332	292	185	163	153	141	141	(141	141	141	141)	139	127	145	157	167	177	175	196	0
30	✓	✓	✓	169	197	199	161	143	139	145	153	153	147	141	145	145	141	147	(153)	155	145	143	161	169	179	183	173	158	0
31	✓	✓	✓	181	189	187	183	187	205	195	177	183	179	149	141	145	143	(127)	117	113	131	139	153	167	179	181	207	165	0
MEANS * 29 DAYS				175	180	186	186	191	200	208	198	184	175	165	163	157	156	151	149	149	152	154	159	166	170	176	177	172	
MEANS † 16 DAYS				170	176	182	184	194	206	214	212	198	187	175	169	163	160	154	152	152	151	153	160	166	173	180	183	176	
MEANS ‡ 15 DAYS				171	178	184	187	197	209	218	216	202	189	177	171	164	160	155	153	153	152	153	160	166	173	180	184	177	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 44

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	130	125	107	90	125	140	145	167	183	166	156	157	149	142	129	129	124	124	129	137	144	159	169	176	142	0
2				149	—	—	—	—	—	—	—	—	137	152	152	152	142	142	137	137	129	124	117	114	124	108	122		1
3	✓			122	119	137	154	157	171	164	161	171	174	179	177	177	174	169	127	144	145	127	139	142	144	152	156	153	1
4	✓			159	149	152	157	154	152	161	166	144	140	(161)	161	150	161	159	157	140	139	142	129	120	139	142	112	148	1
5	✓	✓	✓	114	122	124	124	135	144	152	190	196	191	186	176	159	127	122	124	134	142	107	157	157	154	142	132	146	0
6	✓	✓	✓	124	122	117	139	180	186	161	208	238	233	230	224	207	213	202	204	191	190	185	157	137	124	142	120	176	0
7	✓	✓	✓	125	124	134	157	159	156	147	174	202	205	205	207	205	(194	182	171)	159	154	140	140	161	179	190	199	170	0
8	✓	✓	✓	224	204	246	298	324	378	383	343	258	194	186	190	179	176	157	156	157	156	144	147	166	197	227	238	222	0
9	✓			249	243	236	159	105	90	88	107	177	162	161	156	150	156	157	140	125	(127	120)	112	93	92	100	102	142	1
10	✓	✓	✓	110	120	120	122	112	112	125	130	139	139	154	154	152	157	150	142	140	144	135	127	127	125	124	125	133	0
11	✓			142	169	161	166	174	157	162	193	171	166	157	154	161	156	152	150	150	140	142	144	139	147	157	145	156	0
12	✓			144	140	140	129	147	159	169	164	159	147	171	174	166	157	154	149	144	147	142	137	144	134	145	154	151	0
13	✓			156	157	171	174	147	157	171	147	154	157	169	171	177	171	159	156	145	140	150	150	140	137	137	134	155	0
14	✓			124	124	120	125	112	122	117	124	120	124	140	144	142	(144	142	137)	129	127	125	120	129	130	129	157	129	0
15	✓			162	152	156	161	190	207	202	190	185	174	172	174	167	164	159	154	145	145	140	140	129	135	159	172	164	0
16				180	188	199	201	190	230	222	225	204	188	193	—	—	—	—	—	—	—	129	134	140	130	137	149		0
17	✓			167	221	225	243	272	324	329	301	199	177	167	159	211	179	122	137	135	97	72	105	107	100	102	103	177	2
18	✓	✓		135	120	107	137	114	110	122	145	144	145	159	162	156	159	152	149	144	140	127	124	117	124	122	124	135	1
19	✓			117	117	110	125	107	124	142	152	156	162	174	180	177	172	171	159	145	152	150	142	144	140	122	108	144	0
20	✓			90	90	85	90	79	86	103	90	95	114	125	157	164	159	166	159	157	164	154	142	145	142	125	102	124	0
21	✓	✓	✓	93	85	95	140	185	222	267	340	341	315	281	266	252	233	(222	207	201)	202	199	190	179	161	142	112	205	0
22	✓	✓	✓	103	110	119	127	129	137	137	154	156	167	164	174	177	174	174	166	161	157	145	157	142	152	144	140	149	1
23	✓	✓	✓	127	124	119	107	107	107	124	157	179	193	191	186	190	188	176	167	162	147	159	110	105	103	114	110	144	0
24	✓	✓	✓	102	97	95	107	112	117	125	174	221	227	222	208	201	186	161	156	142	135	139	115	103	108	115	93	144	0
25	✓	✓	✓	90	100	134	162	191	193	199	176	169	180	176	174	161	149	140	142	142	139	127	129	140	145	154	174	154	0
26	✓			172	190	210	224	269	307	321	224	177	169	135	139	144	152	156	137	103	127	120	120	119	122	122	108	169	2
27	✓			95	90	110	112	125	144	139	145	156	161	172	171	174	169	154	137	144	144	142	120	122	152	190	199	144	2
28	✓	✓	✓	215	215	269	252	269	297	318	304	230	188	186	183	161	157	159	157	147	139	127	129	129	145	156	174	196	0
29	✓	✓	✓	185	205	249	225	270	314	323	297	193	169	161	152	142	(139	137	135	134)	130	129	127	122	134	149	145	182	0
30	✓	✓	✓	144	154	154	139	134	112	122	135	150	140	150	162	159	157	150	154	140	139	129	125	124	127	127	122	140	0
31	✓	✓	✓	124	144	145	142	145	180	176	164	161	161	(137	134	139	140)	125	120	115	124	127	125	127	125	139	167	141	0
MEANS * 29 DAYS				139	142	150	155	163	176	183	187	180	174	173	173	171	166	157	151	145	143	137	134	133	137	143	141	156	
MEANS † 16 DAYS				134	136	146	154	168	182	189	204	198	188	184	182	174	168	159	155	150	148	140	137	136	141	147	147	161	
MEANS ‡ 15 DAYS				134	137	148	155	172	186	194	208	201	191	186	183	176	169	159	155	150	148	141	138	138	143	149	148	163	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 46

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	88	80	53	46	46	43	49	51	65	68	71	78	82	90	88	90	88	94	92	98	80	85	82	94	75	0
2				114	75	63	129	102	90	73	75	82	68	Z	Z	71	71	Z	Z	98	N 59	88	92	110	110	114	110		1
3	✓	✓		90	104	100	104	94	75	65	51	85	85	68	N 61	75	73	68	73	94	80	49	78	80	94	92	80	80	1
4	✓	✓	✓	112	112	92	85	73	68	63	71	82	94	94	94	92	94	98	98	90	100	102	102	98	80	80	94	90	0
5	✓	✓	✓	78	94	78	61	51	46	55	71	78	N 73	78	78	78	88	92	98	98	92	92	92	102	112	116	102	83	1
6	✓	✓	✓	98	98	98	98	98	98	82	92	92	92	78	88	92	102	98	92	88	86	88	92	94	82	90	98	92	0
7	✓			88	129	100	88	94	73	78	63	73	63	88	N 98	112	112	106	102	102	92	98	98	98	82	73	73	91	1
8	✓	✓	✓	68	68	73	68	43	49	53	68	78	82	82	92	98	102	116	98	92	102	112	98	88	73	73	73	81	0
9	✓	✓		63	59	59	53	49	43	49	59	88	88	88	88	98	102	102	88	88	92	98	98	116	106	N 98	[188]	86	1
10				[188	141]	122	106	N122	122	Z	112	112	N 88	106	98	102	116	116	122	116	122	116	116	116	116	141	102		1
11	✓	✓	✓	116	102	82	92	88	92	92	78	78	78	78	92	98	98	98	98	98	98	98	106	102	102	102	98	94	0
12	✓			88	98	98	78	88	73	78	88	78	73	73	78	88	92	88	80	85	82	85	82	90	90	92	98	85	0
13	✓			112	126	124	114	100	92	82	80	73	68	73	78	88	82	78	85	78	78	[116]	98	102	112	116	119	95	0
14	✓	✓	✓	119	129	98	85	73	68	63	59	51	53	55	59	61	65	68	68	68	68	59	49	59	68	63	63	70	0
15				61	71	126	133	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	138	114		2
16	✓			122	114	98	105	80	80	75	59	68	68	68	73	73	78	71	78	80	75	92	94	104	133	90	114	87	0
17	✓			166	166	169	122	119	100	82	73	61	73	61	68	78	82	82	73	71	73	73	73	78	98	88	100	93	0
18	✓			88	82	138	138	116	71	98	59	53	73	53	68	75	88	88	82	82	88	88	98	94	102	112	(92)	89	0
19				—	—	—	—	—	—	—	106	102	90	88	78	51	98	98	92	78	92	98	106	114	119	112	102		0
20				92	41	22	—	—	—	53	75	65	92	90	92	94	106	106	110	104	112	100	104	102	100	98	90		0
21	✓	✓	✓	73	73	63	63	53	43	53	73	73	75	75	68	73	98	92	90	98	112	98	106	124	126	126	106	85	0
22	✓	✓	✓	102	110	102	98	104	90	88	94	90	88	92	94	98	106	100	102	98	112	150	141	122	116	119	116	106	0
23				131	145	145	141	129	110	75	59	49	49	59	65	68	75	82	88	82	98	131	131	106	102	—	—		0
24				—	—	—	—	—	—	68	53	53	49	53	53	63	59	63	68	68	65	75	78	85	85	85	85		0
25	✓	✓		98	119	145	216	201	178	116	68	59	61	59	68	73	68	73	73	78	82	100	102	104	112	141	141	106	0
26	✓			145	143	90	55	43	85	102	63	46	46	55	63	63	82	75	75	82	82	82	82	92	92	88	92	80	0
27	✓			98	92	68	59	24	43	88	73	78	92	88	88	82	82	82	78	78	82	90	92	98	85	85	80	79	0
28	✓			98	100	102	90	73	71	82	73	59	53	49	53	53	59	68	73	78	90	98	102	106	118	114	122	82	0
29	✓	✓		166	176	N 59	138	136	106	106	78	53	59	63	63	68	63	65	65	65	63	80	88	98	124	133	141	94	1
30				116	102	82	63	71	80	73	51	43	41	43	43	49	51	46	49	49	49	49	53	53	53	—	Z		1
31																													
MEANS * 22 DAYS				103	108	95	93	84	77	77	70	71	73	72	77	82	87	86	84	85	88	93	94	97	99	99	104	87	
MEANS † 13 DAYS				98	102	85	93	85	77	72	70	75	77	75	79	84	88	89	87	88	91	94	96	97	98	101	107	88	
MEANS ‡ 9 DAYS				95	96	82	77	70	66	66	73	76	78	78	83	86	94	94	93	91	96	99	98	97	94	95	94	86	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 46

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1924

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES.
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h	08h-09h	14h-15h	20h-21h	FORENOON		AFTERNOON		
								DIR. VEL.	DIR. VEL.	DIR. VEL.	DIR. VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	740.5	17.9	57	23.6	4.2			Mod W to SW brzs				Ci; ACu; Cu	3- 6	Ci; ACu; Cu	4- 6	Dew early
2	733.1	20.1	55	20.2	7.7			Mod NW to W brzs				ACu; ASt; Cu; CuNb	10	ASt; CuNb; Nb	10	Continuous rain 10h-16h; rain all night
3	737.1	14.2	64	15.7	8.6	0.19		Lt to gtl SW to W brzs				ACu; Cu; CuNb	10	ACu; Cu; CuNb	10	Rain all am
4	739.8	17.0	47	22.1	15.7	T		Lt NW to SW airs and brzs				Ci; ACu; Cu	7-10	ACu	6- 1	
5	737.2	18.4	55	22.1	4.4			Lt to gtl NW to SW brzs				Cu; ACu; CuNb	7-10	ACu; Cu	7- 8	Dew early; short heavy shower in am
6	739.0	17.5	49	21.0	0.6	0.02		Gtl to mod SW to W brzs				ASt; Cu; CuNb	7-10	ASt; Cu; CuNb	7-10	Shower early in evening
7	741.3	13.9	73	19.3	7.4	0.04		Lt to gtl S to SW brzs				Cu; Nb	10	Cu; Nb	10	Light rain in am
8	739.6	15.6	57	22.2	4.1	0.02		Lt to gtl SSW to W winds				ACu; Cu; CuNb	7-10	Cu; CuNb	7-10	
9	736.6	16.2	62	22.2	4.6	T		Lt to gtl NW to SW brzs				ASt; Cu; Nb	7-10	ASt; Cu; CuNb	7-10	Few drops rain about 9h
10	739.2	15.8	55	20.2	9.1	0.08		Lt to gtl S to SW brzs				ACu; Cu; Nb	7-10	ACu; Cu; CuNb	7-10	Few drops rain in am
11	744.1	16.0	50	23.3	4.1	0.02		Gtl to mod SE to SW brzs				CiCu; ACu	1- 3	CiCu; ACu	1- 3	
12	741.9	17.3	55	23.9	5.6			Lt to gtl S to SW brzs				CiSt; ACu; ASt; Cu	7- 8	CiSt; ACu; ASt; Cu	7- 8	Dew early
13	740.8	21.0	47	29.1	10.1			Lt SE brz to late pm				ACu	1- 3	ACu	1- 3	
14	741.2	26.0	34	37.1	12.6			Gtl SE brz in am, NW in pm				ACu; CiSt; CuNb	1- 8	ACu; CiSt; CuNb	7- 8	Lightning in NE in evening
15	740.2	26.6	40	35.5	18.9	0.01		Gtl SE brz at 9h				ACu; CuNb; Nb	10	ACu; CuNb; Nb	10	Threatening all day; thunderstorms in pm and evening
16	739.5	27.0	49	32.5	13.7	0.07		Lt NW brz in am, SW in pm				StCu; FrCu	1- 6	StCu; FrCu	4- 6	
17	739.7	22.1	69	28.4	13.3			Lt S airs in am, SW in pm				StCu; FrCu	10- 1	StCu; FrCu	1- 3	
18	740.0	19.7	62	29.1	9.3			Lt S brz in am, SW in pm				FrCu	1- 4	CiSt	4- 6	
19	736.0	18.7	66	22.7	13.4			Gtl to mod SW brz				ACu; Cu; FrCu	7-10	CiCu; CuNb	7-10	
20	740.1	16.9	52	21.9	8.6	0.01		Lt to gtl SSW to SW brzs				FrCu; CuNb	7-10	FrCu; CuNb	4- 6	Few drops rain at 8h5
21	741.9	17.6	50	21.3	2.8	-		Lt to gtl SW brz				FrCu; StCu; CuNb	7-10	FrCu; CuNb	4- 6	
22	744.6	17.2	44	25.1	5.1			Gtl to mod SE brz					0		0	
23	745.8	23.0	30	30.6	8.2			Mod E brz in am, SSW in pm					0		0	Dew early
24	744.9	25.5	34	33.2	11.3			Mod SSE to SSW brzs					0		0	Dew early
25	742.0	25.9	37	34.4	11.0			Gtl NE brz in am, SW in pm					0		0	Dew early
26	741.1	28.2	30	38.1	8.2			Lt NNE brz in am, SSW in pm					0		0	Dew early
27	740.2	28.5	34	35.7	8.8			Gtl S to SW brzs					0		0	
28	740.2	28.5	33	36.4	10.6			Lt SE brz in am, mod SW pm				ACu	7- 9	ACu	7- 9	
29	742.1	31.2	22	38.1	14.9	T		Lt SE brz in am, SSW in pm				CiCu; ACu	1- 3	CiCu; ACu	1- 3	
30	742.6	29.6	32	38.3	19.8			Lt ESE brz throughout				CiCu; CiSt; ACu	10	CiCu; CiSt; ACu	10	
31																
SUM						0.46										
MEAN	740.4	21.1	48	27.4	9.6											

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS—6 MPH; LIGHT BREEZE (LT BRZ)—12 MPH; GENTLE (GTL BRZ)—18 MPH; MODERATE (MOD BRZ)—25 MPH; FRESH (FR) WIND—30 MPH; STRONG (STR) WIND—35 MPH; VARIABLE (VAR).

TABLE 47

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	223	229	266	270	272	290	300	255	203	176	169	161	151	155	155	151	149	159	169	167	207	229	233	217	206	0
2	✓			231	274	318	245	249	268	268	194	174	165	159	163	149	147	144	147	153	151	155	149	157	167	159	169	190	1
3	✓	✓		186	190	184	186	190	186	188	174	182	171	174	174	169	167	161	169	169	165	167	169	184	176	188	190	177	1
4	✓	✓	✓	174	211	227	251	270	257	251	207	192	184	174	174	176	174	165	165	169	153	153	155	184	194	205	205	195	0
5	✓	✓	✓	229	211	231	255	286	300	312	231	188	174	180	165	155	(155	153)	140	159	147	149	149	153	169	169	169	193	1
6	✓	✓	✓	169	169	163	155	153	169	174	167	157	153	153	155	155	149	147	144	153	149	149	149	169	190	171	171	160	0
7				178	182	190	192	192	209	203	205	188	178	169	163	—	—	—	—	—	169	165	169	176	207	217	239		1
8	✓	✓	✓	251	278	288	276	314	312	325	247	199	192	169	169	157	161	155	153	161	163	161	174	194	219	217	231	215	0
9	✓	✓		247	288	304	316	344	361	365	280	188	169	167	159	151	151	149	149	151	140	144	151	147	140	134	[134]	205	1
10	✓			[126	130]	142	147	153	165	151	155	155	149	157	153	153	153	149	149	153	151	159	159	151	165	167	171	153	1
11	✓	✓	✓	169	174	186	186	180	184	194	199	171	167	165	159	169	(159)	140	144	153	149	151	159	169	169	171	186	169	0
12				196	190	194	201	178	188	—	—	165	165	165	163	153	144	147	147	149	151	151	163	169	169	174	174		0
13				174	—	—	—	—	—	—	—	225	231	213	(203)	194	190	188	190	176	174	[113]	140	142	144	155	149		0
14	✓	✓	✓	149	144	211	243	253	251	268	276	280	268	245	223	194	192	190	178	176	171	205	231	241	255	270	300	226	0
15				298	292	217	213	192	207	209	174	227	159	99	217	213	169	18	62	—	130	87	91	149	142	134	144		2
16				—	169	169	165	174	99	209	225	219	217	196	194	190	178	169	151	153	165	155	161	—	—	—	—		0
17				—	—	—	—	—	—	—	155	184	169	155	151	149	165	174	163	157	151	159	153	147	149	165	153		0
18				149	—	—	—	—	—	—	—	199	184	(165)	169	174	(167	155	151)	174	136	144	138	126	128	128	124		0
19	✓			122	113	107	93	107	113	119	128	149	144	134	128	132	128	128	134	140	142	144	149	165	165	161	167	134	0
20	✓			167	147	142	142	136	140	153	155	153	149	149	149	138	138	140	132	140	144	153	153	157	169	174	188	150	0
21	✓	✓	✓	209	215	241	233	274	304	288	223	180	169	149	149	147	144	149	149	142	128	149	132	134	136	134	149	180	0
22	✓	✓	✓	176	176	190	186	171	184	194	182	151	153	153	147	136	117	128	151	147	109	87	107	122	132	134	134	149	0
23	✓			130	117	126	122	128	136	201	268	292	278	257	243	227	211	169	153	153	136	91	103	140	149	149	130	171	0
24	✓			122	119	111	124	132	157	215	251	264	243	221	194	188	188	182	165	153	138	132	126	134	142	144	140	166	0
25	✓	✓		128	113	105	(81	66	55	103	155)	169	169	176	169	163	(159	153)	153	153	149	144	138	142	147	128	126	135	0
26				—	—	—	—	—	—	—	—	247	249	217	190	182	176	163	151	153	147	147	151	155	163	184	186		0
27				190	194	221	186	—	—	—	149	113	107	107	101	113	126	122	128	128	136	147	149	157	144	149	155		0
28				128	—	—	—	—	—	—	—	—	207	209	209	209	167	130	122	128	132	134	149	161	140	128	109		0
29	✓	✓		83	93	105	107	115	138	142	171	219	235	203	188	151	153	153	149	144	149	117	111	107	99	101	103	139	1
30	✓			113	144	169	215	178	136	149	215	217	227	227	213	205	190	186	188	171	176	192	174	184	188	176	105	181	1
31																													
MEANS * 20 DAYS				170	177	191	192	199	205	218	207	194	187	179	172	163	160	155	153	154	148	149	150	162	170	169	169	175	
MEANS † 13 DAYS				184	192	208	211	222	230	239	213	191	183	175	169	160	157	154	153	156	149	150	153	166	173	173	178	181	
MEANS ‡ 9 DAYS				194	201	223	228	241	250	256	221	191	182	173	167	160	156	154	153	157	148	153	158	175	188	189	196	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 48

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	171	183	223	267	226	264	275	250	188	175	173	170	160	163	149	148	154	148	142	128	146	180	189	181	186	0
2	✓			183	239	291	215	205	237	248	194	176	173	183	168	149	148	158	148	138	138	129	133	128	118	123	123	173	1
3	✓	✓		133	123	129	139	138	138	144	156	166	176	163	175	166	165	160	161	148	146	144	144	141	129	116	141	148	1
4	✓	✓	✓	121	128	178	208	192	224	231	(202	181)	175	171	173	170	176	163	165	158	146	139	133	133	151	170	153	168	0
5	✓	✓	✓	183	166	192	226	289	297	289	232	191	181	194	183	170	(173	161	149)	146	131	133	131	126	124	124	144	181	1
6	✓	✓	✓	153	149	138	131	124	128	144	148	144	158	163	158	148	148	138	144	142	138	131	131	128	144	142	128	142	0
7				131	131	133	151	146	161	183	191	184	178	148	166	—	—	—	—	—	144	141	131	124	158	170	196		1
8	✓	✓	✓	212	247	242	245	288	294	294	228	189	178	173	165	160	163	158	156	160	141	133	134	142	173	175	186	193	0
9	✓	✓		229	267	274	305	320	353	361	288	186	168	166	176	160	160	160	149	141	144	139	141	128	142}	144}	[107]	200	1
10	✓			[94	109]	106	114	114	112	138	138	144	142	158	156	148	146	148	163	148	141	131	139	128	123	99	114	131	1
11	✓	✓	✓	121	121	133	138	160	148	165	194	180	178	178	176	175	173	(166)	148	154	141	142	138	139	142	196	181	158	0
12				192	178	176	—	—	—	—	—	154	170	166	163	158	160	149	149	146	144	141	144	154	148	149	144		0
13				128	—	—	—	—	—	—	—	247	253	226	(212)	210	210	200	199	192	181	[101]	129	131	128	128	119		0
14	✓	✓	✓	136	128	183	226	242	247	289	286	294	289	281	252	228	226	213	199	189	183	197	226	210	212	223	245	225	0
15				261	266	199	196	{255	231	226	194}	183	{210	229}	200	223	200	212	{184	—	90	107	118	81	94	109	128}		2
16				{123	94	131	158	161	176}	207	224	220	210	210	199	189	168	163	149	148	148	128	111	121	104	109	94		0
17				81	64	(71	81	88)	109	129	146	168	165	—	—	—	—	—	—	—	—	146	138	138	131	112	107		0
18				109	118	99	101	102	106	111	158	200	204	197	188	180	(163	161)	171	161	144	141	128	119	118	111	109		0
19	✓			107	107	92	81	94	99	102	118	138	139	142	138	142	124	119	124	124	116	121	119	114	112	116	123	117	0
20	✓			131	116	111	96	92	99	139	154	149	158	165	166	158	146	146	142	144	133	141	128	114	119	124	156	134	0
21	✓	✓	✓	176	189	197	221	264	272	264	213	186	165	154	165	163	163	173	161	142	124	131	121	99	97	90	104	168	0
22	✓	✓	✓	134	124	146	144	134	154	178	191	176	165	176	180	160	128	146	163	156	116	81	97	111	126	119	112	142	0
23	✓			107	102	99	101	97	124	194	281	319	320	291	274	270	245	189	168	165	146	102	99	141	160	131	111	176	0
24	✓			104	101	94	101	111	144	210	269	291	274	260	242	226	218	200	181	168	160	142	131	134	144	139	138	174	0
25	✓	✓		111	94	83	66	55	49	96	148	175	178	178	176	168	171	171	(173)	160	160	139	129	133	129	96	92	130	0
26				88	77	79	94	92	90	111	200	256	263	244	213	207	199	180	165	161	156	154	144	149	144	165	173		0
27				153	—	—	—	—	—	—	148	131	104	112	111	116	129	133	142	144	148	149	144	146	144	133	136		0
28				112	—	—	—	—	—	—	—	—	204	226	224	215	178	154	142	134	138	141	134	126	111	94	92		0
29	✓	✓		64	77	106	94	99	114	128	176	242	269	228	212	183	188	194	176	173	171	129	126	112	97	92	92	148	1
30	✓			106	128	158	223	188	146	163	231	240	239	250	229	223	220	212	212	194	202	207	205	210	212{	200	208}	200	1
31																													
MEANS 20 DAYS	*			139	145	159	167	172	182	203	205	198	195	192	187	176	172	166	162	155	146	138	137	136	142	140	142	165	
MEANS 13 DAYS		†		150	154	171	185	195	206	220	209	192	189	184	182	170	169	166	161	156	145	137	137	134	142	144	144	168	
MEANS 9 DAYS			‡	156	159	181	201	213	225	237	216	192	185	185	180	170	168	163	159	156	141	137	138	137	150	159	159	174	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 49

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				Z	65	55	55	50	50	44	40	35	35	40	(30)	40	40	40	35	N 5	35	35	40	N 35	Z	Z	Z		1
2				Z	Z	Z	Z	5	5	20	65	69	80	69	65	N 55	N 30	80	69	75	80	94	94	94	100	80	75		2
3	✓	✓		63	44	48	44	42	65	92	92	90	94	85	92	85	94	94	100	102	110	114	124	116	126	118	144	91	0
4	✓	✓		168	173	100	118	130	124	114	100	85	92	102	102	100	104	104	106	106	104	104	118	132	158	168	175	118	0
5	✓	✓	✓	140	104	126	82	77	73	69	60	60	60	63	65	69	73	75	82	77	80	85	94	98	100	100	94	84	0
6	✓	✓		75	69	65	55	50	50	50	60	60	55	52	52	55	63	69	75	90	94	104	128	165	189	170	161	86	0
7	✓	✓		163	146	149	130	106	94	98	85	69	75	75	75	80	75	80	75	85	90	100	110	128	142	165	217	109	0
8	✓	✓		231	227	241	203	207	170	217	146	110	100	90	90	90	85	85	85	85	80	94	110	124	132	146	156	138	0
9	✓	✓		175	193	189	231	203	165	118	85	65	60	55	55	55	60	60	69	80	82	98	126	138	146	168	173	119	0
10	✓			191	175	152	149	154	130	82	73	65	55	60	60	65	65	85	85	94	98	98	114	132	142	138	132	108	0
11	✓			82	77	73	69	65	55	55	50	55	60	60	65	69	69	69	69	80	94	100	90	94	94	100	110	75	0
12	✓	✓	✓	114	100	90	80	65	85	100	112	102	92	77	90	92	88	92	92	94	104	100	104	118	130	135	128	99	0
13	✓		✓	118	116	120	102	90	92	75	75	75	73	88	90	80	69	73	80	80	90	102	104	118	118	118	118	94	0
14	✓			130	142	116	80	69	69	69	69	60	60	69	75	75	69	75	75	75	80	90	104	114	104	118	138	89	0
15	✓			132	90	118	100	65	50	50	55	55	55	60	67	85	85	69	65	69	75	73	82	114	175	165	158	88	0
16	✓			154	144	128	104	65	48	42	44	50	52	55	58	67	73	77	69	85	90	80	94	94	120	146	126	86	0
17	✓			104	124	106	88	69	65	88	75	69	85	80	85	80	85	88	85	90	90	110	114	138	156	152	138	98	0
18				—	—	—	—	—	—	—	124	124	94	100	85	80	75	80	90	85	94	102	128	177	184	191	142		0
19	✓	✓		106	106	138	130	85	69	55	50	55	60	60	65	69	77	75	73	75	85	94	102	116	156	221	221	98	0
20	✓	✓		231	189	161	114	75	60	50	55	55	65	65	65	69	69	69	60	65	88	85	90	114	132	152	128	96	0
21	✓	✓	✓	118	118	118	110	80	N 60	130	142	132	116	104	100	94	90	75	80	100	110	124	114	118	124	124	110	108	1
22				94	100	94	100	104	104	69	55	48	48	58	63	63	Z	Z	114	Z	Z	60	138	146	158	152	Z		2
23				Z	Z	161	—	—	—	—	—	152	163	140	124	116	110	116	114	116	135	170	179	189	193	193	173		1
24	✓	✓		142	177	221	241	175	112	110	102	94	94	94	94	94	94	100	100	100	110	118	142	142	170	189	189	134	0
25	✓	✓		156	146	100	90	85	80	80	75	69	60	63	67	77	80	73	77	82	90	100	100	100	100	100	94	89	0
26	✓	✓	✓	94	94	85	85	80	75	65	60	60	65	65	69	75	75	80	80	85	90	85	90	104	100	90	94	81	0
27	✓			85	75	65	65	65	60	55	55	55	60	65	69	69	75	69	75	82	75	80	88	73	77	149	383	86	0
28	✓	✓		233	102	60	52	50	48	48	50	52	58	67	65	67	73	63	63	69	69	75	100	189	231	269	293	102	0
29	✓	✓		297	241	227	221	221	179	165	104	60	50	50	55	60	60	58	60	60	69	80	90	112	130	130	158	122	0
30				173	Z	191	152	179	179	175	124	94	90	90	85	85	80	90	85	90	114	114	128	154	156	168	175		1
31				196	187	182	175	163	165	82	44	40	44	40	Z	69	60	65	65	75	82	112	100	100	90	82	92		1
MEANS * 24 DAYS				146	132	125	114	99	87	87	78	71	71	71	74	76	77	77	78	84	89	96	106	120	136	147	160	100	
MEANS † 16 DAYS				157	139	132	124	108	94	98	86	76	75	73	75	77	79	78	80	85	91	98	109	126	142	153	158	105	
MEANS ‡ 5 DAYS				117	106	108	92	78	77	88	90	86	81	79	78	80	79	78	81	87	96	99	98	106	110	110	107	92	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 50

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1924

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	737.6	30.8	24	40.1	22.4											CiSt; ACu; CuNb	7-10	CiSt; ACu; CuNb	7-10	Thundery all day; lightning at 21h
2	734.3	20.5	75	24.4	17.8											ACu; ASt; CuNb	7-10	ACu; ASt; CuNb	7-10	Light rains at 13h and 20h
3	736.5	21.7	57	28.3	13.5	0.05										Cu; FrCu; CuNb	7- 8	FrCu; CiSt	7- 8	
4	741.0	21.2	57	30.6	13.1											Ci; CiSt	2- 8	CiSt	1- 3	
5	740.1	24.3	33	35.6	11.1											Ci; CiSt	1- 3		0	
6	735.9	33.5	18	37.8	15.5											CiSt	1- 3	CiSt	1- 3	Slight amount of smoke in evening
7	737.1	24.2	47	31.1	12.6												0		0	
8	738.0	24.8	60	34.0	15.7											CiCu	0- 1		0	
9	735.1	27.0	43	37.3	15.6												0		0	Dew early
10	736.1	22.8	41	32.1	14.5												0		0	
11	736.1	23.0	50	31.7	13.7												0	CiCu	1- 3	
12	738.8	18.8	49	23.8	8.3											Cu; StCu	7- 9	Cu; StCu	7- 8	
13	744.6	15.7	33	23.4	9.8											ACu	0- 1		0	
14	746.5	19.0	34	26.8	8.3												0		0	
15	745.4	23.0	34	30.8	8.6												0		0	
16	742.7	22.2	20	34.8	10.0												0		0	
17	739.7	27.6	21	32.9	11.7												0		0	Slightly smoky all day
18	742.9	23.3	44	33.2	12.0												0		0	Slightly smoky all day
19	741.6	20.8	22	40.6	12.4												0		0	Slightly smoky
20	738.9	35.0	14	42.7	11.0											CiSt	0- 1	FrCu	4- 6	Hazy all day, as if by smoke; definitely smoky 16h–18h
21	738.7	28.6	40	38.8	14.6											CiCu; ACu; ASt	4- 6	CiCu; ACu; ASt	1- 3	Hazy all day; lightning at 23h
22	737.8	29.7	34	41.1	13.8											ACu	3- 6	Cu; CuNb	4- 6	Rain in NE and E in pm; thunder in pm
23	737.9	22.4	65	28.9	16.2											ACu; Cu; FrCu	2- 8	Ci; ACu; ASt	7- 8	
24	743.6	19.0	47	28.8	12.9											Ci; CiSt; ASt	7- 8	Ci; CiSt; ASt	7- 8	
25	745.7	20.3	36	29.4	12.4											ASt	0- 1		0	
26	743.2	22.6	37	31.5	12.7												0		0	
27	742.6	26.2	26	33.6	14.8												0		0	
28	743.1	28.5	21	36.4	14.2											CiSt	1- 3	CiSt	1- 3	Smell of smoke in evening
29	741.4	30.7	21	37.7	15.0											Ci; CiSt; FrACu	6-10	CiCu; CiSt; ACu	7-10	
30	742.7	25.6	46	36.9	15.5	T										Ci; CiSt; ACu; FrCu	7-10	FrCu	7-10	
31	740.6	29.8	29	37.7	13.5											CiSt; CiCu; ACu	5-10	FrCu	7-10	
SUM						0.05														
MEAN	740.1	25.1	38	33.3	13.5															

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST. LIGHT (LT) AIRS—6 MPH; LIGHT BREEZE (LT BRZ)—12 MPH; GENTLE (GTL BRZ)—18 MPH; MODERATE (MOD BRZ)—25 MPH; FRESH (FR) WIND—30 MPH; STRONG (STR) WIND—35 MPH; VARIABLE (VAR).

TABLE 51

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			191	233	248	259	259	247	234	221	208	187	186	182	166	161	158	157	167	171	182	191	212	211	126	135	196	1
2				69	33	158	171	199	163	148	131	132	122	122	118	122	(113	98	109)	124	120	114	117	117	110	111	114		2
3	✓	✓		119	130	138	135	127	131	135	141	138	144	140	141	128	130	122	118	122	128	132	138	147	150	152	135	134	0
4	✓	✓		109	105	114	126	122	131	141	173	195	211	162	150	138	134	119	107	109	117	124	131	113	109	111	109	132	0
5	✓	✓	✓	105	111	173	243	238	245	265	284	280	279	264	249	225	210	204	197	199	190	177	180	180	189	203	212	213	0
6	✓	✓		222	262	282	291	294	298	313	274	217	214	186	203	223	222	223	209	161	138	124	110	84	78	85	80	200	0
7	✓	✓		77	93	107	113	118	135	161	177	195	201	186	177	181	175	180	173	167	161	158	154	149	145	123	82	150	0
8	✓	✓		70	67	52	72	70	70	82	126	167	181	186	184	172	164	161	162	163	161	171	161	152	136	115	118	132	0
9	✓	✓		95	85	80	73	84	95	134	177	209	236	248	231	228	(223	194)	173	170	162	147	132	124	118	98	93	150	0
10				93	87	94	95	105	113	159	185	190	185	197	186	179	159	135	113	111	131	107	109	109	109	120	—		0
11				—	—	—	—	—	—	—	—	204	186	161	148	157	161	163	(148)	111	95	131	152	159	143	150	145		0
12	✓	✓		135	126	146	155	163	155	140	147	152	152	147	150	148	150	148	147	148	150	152	153	153	143	124	113	146	0
13				119	117	134	154	168	173	179	176	177	182	167	150	140	127	111	101	97	—	—	—	—	—	—	—		0
14																													
15																													
16				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163	161	148	166	—	—	—		0
17				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	138		
18				128	114	98	97	—	—	—	—	—	—	—	—	147	152	154	162	163	159	158	135	89	86	85	86		0
19	✓	✓		90	98	110	148	211	299	329	327	280	236	220	194	194	(190	186	184	180)	176	149	132	130	113	82	80	181	0
20	✓	✓		89	95	114	157	211	271	295	260	212	193	172	168	172	166	152	134	147	148	143	149	138	120	106	122	164	0
21	✓	✓	✓	126	124	124	132	148	168	122	111	107	109	107	101	106	107	118	109	97	80	82	110	110	127	144	148	117	1
22				131	126	135	135	122	130	201	239	239	255	255	232	209	185	157	138	113	161	161	115	93	78	86	85		2
23	✓			94	106	94	84	82	72	70	82	77	81	105	122	127	(128)	130	124	123	111	110	93	90	97	98	97	100	1
24	✓	✓		99	94	73	80	109	154	162	164	166	161	157	150	141	130	101	91	86	90	76	82	94	94	91	86	114	0
25	✓	✓		87	109	172	186	191	187	187	195	200	172	182	189	185	176	173	163	166	164	148	161	172	186	200	209	173	0
26	✓	✓	✓	220	215	220	222	226	234	248	256	258	255	245	225	208	203	194	190	184	187	185	186	182	191	206	221	215	0
27				—	—	—	—	—	—	—	—	310	277	243	231	215	217	203	203	197	198	186	189	209	220	153	51		0
28	✓	✓		84	209	307	328	336	359	337	324	306	266	245	223	206	186	194	189	181	168	172	122	60	55	51	51	207	0
29	✓	✓		52	56	63	69	73	77	93	145	199	236	250	212	187	180	164	164	159	155	143	132	113	114	120	110	136	0
30	✓			101	98	98	109	99	86	94	126	171	195	198	193	181	(177	163)	157	166	161	143	128	114	111	99	84	136	1
31				85	94	97	107	106	113	223	345	366	354	312	233	227	206	198	177	135	139	118	161	176	182	185	161		1
MEANS * 19 DAYS				114	127	143	157	166	180	186	195	197	195	189	181	175	169	162	155	152	148	143	139	132	131	123	120	157	
MEANS † 16 DAYS				111	124	142	158	170	188	196	205	205	203	194	184	178	172	165	157	152	148	143	140	131	129	126	123	160	
MEANS ‡ 5 DAYS				141	139	160	181	189	195	191	195	195	195	186	175	169	166	165	158	148	140	145	156	157	159	165	168	168	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 52

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1924

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			204	236	252	256	255	248	239	229	220	205	198	187	178	172	159	154	178	175	183	190	211	188	160	202	203	1
2				213	256	—	—	—	—	—	—	—	115	127	118	124	(115	89	115)	118	112	102	100	98	102	98	93		2
3	✓	✓		94	105	104	115	112	107	114	119	133	135	135	130	125	128	110	114	115	119	115	118	121	132	138	115	119	0
4	✓	✓		88	83	95	105	103	105	120	156	202	207	159	140	136	128	91	95	105	115	123	118	[102	90	84	75]	118	0
5	✓	✓	✓	[61	79	130]	213	232	243	263	284	292	292	288	275	247	227	210	201	199	188	166	180	171	176	182	193	208	0
6	✓	✓		213	246	274	291	300	308	324	292	242	238	213	232	246	242	232	222	168	142	120	103	[68	56	65	65]	204	0
7	✓	✓		[65	73	71	73]	93	116	145	175	193	199	190	184	180	181	183	178	166	157	151	150	119	103	[98	64]	138	0
8	✓	✓		[52	42	42	57	60	62	66	116]	158	166	189	188	180	174	169	164	164	164	160	146	129	114	[90	89]	123	0
9	✓	✓		[78	68	65	56	68	80	130]	172	220	236	240	239	234	231	(212	177)	166	163	139	116	[95	90	71	68]	142	0
10				[65	66	78	79	78	93]	152	184	190	188	197	190	189	165	133	107	113	135	104	93	93	95	—	—		0
11			✓	—	—	—	—	—	—	—	—	226	189	166	152	159	163	166	170	148	95	128	146	148	132	138	129		0
12			✓	124	118	127	125	118	127	135	138	168	157	157	163	164	165	159	(153)	147	141	134	129	127	113	103	93	137	0
13	✓	✓		113	114	127	147	159	164	184	184	201	211	209	190	166	156	124	103	105	91	121	130	128	127	128	125		0
14				102	102	118	187	240	238	227	224	247	223	211	216	221	207	186	166	170	168	157	129	110	125	108	108		0
15				91	90	91	128	232	337	346	338	343	326	302	276	—	—	—	—	—	211	203	174	[142	89	93	98]		0
16				[91	102	113	157]	240	325	453	417	353	293	165	138	176	183	201	199	188	157	166	157	166	142	141	148		0
17				—	—	—	—	—	—	—	—	158	150	151	152	174	152	162	166	166	168	153	141	112	95	108	124		0
18				104	102	78	62	89	116	114	124	135	147	127	150	154	174	176	177	181	169	160	[120	75	75	70	69]		0
19	✓	✓		[69	80	75	116]	188	279	347	352	297	262	235	213	211	(204	196	189	181)	174	153	128	119	[91	57	56]	178	0
20	✓	✓		[62	73	90]	129	188	268	303	278	236	212	193	190	196	190	174	147	160	148	141	148	123	102	84	83	163	0
21	✓	✓	✓	93	102	105	107	118	147	107	100	89	102	107	100	102	108	123	118	98	79	81	103	104	110	113	118	106	1
22				115	—	—	—	—	—	—	256	252	268	266	238	213	234	199	141	113	197	169	100	84	70	75	95		2
23	✓			80	73	71	73	70	69	73	78	70	74	96	110	125	133	(144)	139	128	108	100	80	76	80	81	79	92	1
24	✓	✓		89	84	68	65	89	148	160	168	186	188	180	165	160	147	105	91	91	88	75	81	81	81	73	65	114	0
25	✓	✓		74	90	175	193	193	198	197	211	214	195	209	223	222	226	214	198	187	188	158	166	180	202	211	220	189	0
26	✓	✓	✓	223	216	222	226	231	238	262	272	288	281	280	268	247	243	231	230	214	213	202	189	160	166	180	193	228	0
27				—	—	—	—	—	—	—	—	—	311	279	269	258	254	239	245	223	218	209	189	188	191	[145	38]		0
28	✓	✓		[68	165]	277	314	334	374	374	361	345	302	272	252	236	213	222	212	199	175	142	[116	55	43	42	39]	214	0
29	✓	✓		[35	47	52	52	61	58	56	128]	202	258	285	245	220	213	199	203	180	170	152	142	103	103	104	76	139	0
30	✓			65	78	68	80	65	74	81	119	164	176	196	196	193	187	182	180	(168)	156	141	116	98	98	79	68	126	1
31				65	69	64	—	—	—	219	382	390	383	336	284	222	235	220	197	135	135	107	154	146	152	163	145		1
MEANS * 19 DAYS				97	108	124	139	151	171	184	197	206	204	201	195	190	185	174	167	159	151	139	133	118	113	106	103	155	
MEANS † 16 DAYS				93	104	123	140	156	179	194	208	217	214	208	200	194	189	177	168	159	151	138	133	116	111	106	101	157	
MEANS ‡ 5 DAYS				123	126	142	164	172	184	190	196	208	209	208	192	184	181	178	174	161	143	142	149	142	139	143	145	166	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 53

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			80	[125	181	197	195]	119	127	112	95	88	86	90	95	82	80	86	88	95	119	[197	170	162	129	119]	122	0
2	✓			125	119	110	105	110	86	55	53	55	51	55	61	65	65	86	73	100	[133	162	179	197	179	166	152]	106	0
3				—	—	—	—	—	—	—	—	36	36	46	65	95	123	139	[166	189	216	230	202	234	225	212	212]		0
4	✓			[222	193	166	154	166	164]	141	148	119	129	119	115	110	119	115	119	129	129	(129	131)	133	133	143	133	140	0
5	✓			115	[148	162	191	181	173]	107	59	49	53	59	68	76	80	78	80	86	[105	202	280	247	148	156	189]	129	0
6				[212	202	189]	129	80	65	55	51	49	43	53	55	61	59	71	76	80	[125	243]	≷ Z	Z	Z	Z	Z ≶		1
7	✓	✓		≷N 3	59	N 36≶	59	76	73	76	41	31	31	26	16	31	31	46	61	61	65	80	100	95	86	≷ 76	N 16≶	53	1
8				61	55	86	90	100	95	80	76	71	65	71	71	80	80	86	90	86	80	90	100	105	—	—	—		0
9			✓	—	—	—	—	—	—	—	—	73	78	71	78	88	82	90	90	88	95	100	105	105	100	100	95		0
10	✓	✓		100	95	100	95	86	80	76	76	71	78	80	82	95	110	110	105	100	100	125	115	119	115	125	115	98	0
11	✓	✓	✓	110	115	110	100	95	95	90	80	90	90	90	100	105	115	100	115	105	105	115	115	[276	384	326	280]	138	0
12	✓	✓		[307	293	148]	86	80	76	76	71	65	71	76	86	90	100	100	98	98	95	[193	261	286	435	467	437]	171	0
13	✓	✓		[380	326	291	266	253	216	123]	73	68	68	68	76	86	98	110	105	105	110	117	125	[230	303	243]	93	164	0
14				78	80	86	93	88	98	68	73	73	76	73	119	≷ Z	Z	Z ≶	119	80	88	98	90	80	95	103	107		1
15	✓	✓	✓	≷N 68	N 61≶	125	127	103	107	90	95	86	≷N 46	68≶	80	59	61	86	93	90	98	88	88	93	90	86	76	86	1
16	✓	✓		76	80	76	53	61	53	65	71	76	76	78	78	88	82	82	80	76	78	95	[197	243	204	166	125]	98	0
17	✓	✓		100	103	129	[148	166	154	164	158	156]	143	133	125	115	90	86	88	115	90	100	[225	189	175	158]	139	135	0
18	✓			143	136	136	117	78	65	71	86	86	71	71	76	76	95	100	[139	139	110	105]	95	100	95	98	93	99	0
19	✓			76	68	55	59	76	115	100	82	76	80	71	71	76	80	86	90	90	95	100	105	105	100	86	76	84	0
20	✓	✓	✓	90	100	119	119	103	76	71	68	63	63	68	61	65	76	90	95	90	86	76	110	[184	193	193	207]	103	0
21	✓	✓		[179]	100	95	95	95	90	76	65	71	76	76	71	86	86	80	76	76	71	88	[105	131	123]	73	73	90	0
22			✓	78	78	78	80	80	93	86	76	76	78	≷N 55	N 51	N 46≶	55	55	51	59	55	55	63	55	78	Z	76		2
23				68	63	51	63	82	≷N 39	N 16	Z	N 53	N 24	7	Z	Z	N 9≶	18	41	31	12	41	41	43	55	46	39		2
24	✓	✓		46	46	43	43	43	34	46	34	31	26	49	46	46	59	N 46	31	51	82	61	34	22	41	31	41	43	1
25	✓	✓		61	63	73	82	71	76	71	65	≷ 41	55	46	N 41	N 51≶	55	61	71	76	76	80	76	80	88	110	105	70	1
26	✓	✓	✓	93	82	68	55	71	68	63	76	78	78	78	76	78	78	76	88	86	78	90	78	98	95	95	105	80	0
27	✓	✓		112	105	93	82	78	68	68	71	71	65	71	71	76	71	73	73	78	86	98	123	[152	232	255	218]	104	0
28	✓	✓		[154	162	123]	82	76	71	71	[68]	68	65	68	73	73	80	76	76	80	86	86	86	76	[133	276	270]	103	0
29	✓			[216	170	170	143	117	136	127]	71	49	43	55	61	76	86	90	90	95	110	141	133	107	110	105	117	109	0
30	✓	✓		143	143	139	131	119	125	139	100	93	82	88	86	82	95	93	105	110	105	115	115	110	117	125	[162]	113	0
31	✓	✓		[193	214	247	214	125]	68	68	71	65	65	71	65	65	80	93	82	71	80	[154	125	117	105]	88	93	109	0
MEANS * 24 DAYS				133	129	125	117	109	100	90	79	73	71	73	74	78	82	85	88	91	94	113	133	148	160	157	143	106	
MEANS † 17 DAYS				130	126	119	108	100	90	84	75	72	69	73	73	76	80	83	85	86	88	104	122	147	172	170	150	103	
MEANS ‡ 7 DAYS				94	94	92	83	82	76	74	74	73	73	75	74	78	78	84	85	85	88	96	96	104	101	96	92	86	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 54

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS	AIR TEMP	REL HUM	MAX TEMP	MIN TEMP	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm.	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	739.5	30.5	28	38.5	13.0			SW	3	ESE	4	SW	8	S	3	StCu	1- 3		0	Smoky in am
2	740.2	29.7	33	40.2	14.7			SSW	3	E	8	WNW	3	SW	8		0	CiSt	1- 3	Much smoke from SW in pm
3	737.1	33.0	20	35.2	18.4			SE	5	NNE	6	NW	16	WNW	8	CiSt; Ci	1- 6	Ci; CiSt	6-10	Overcast in evening
4	739.8	24.1	59	32.4	14.6			NW	2	..	0	SSW	4	SSW	8	Ci; ACu; StCu; CuNb	7-10	Ci; ACu; StCu; CuNb	7- 8	Air hazy or smoky
5	738.9	29.4	36	38.2	14.1			S	2	ESE	5	SE	6	SSW	10	Ci; CiCu	1- 3	Ci; Cu	4- 6	Dew early; air hazy
6	735.2	32.5	22	41.7	17.3			S	6	E	9	S	2	W	5	ACu	3- 6	ACu; Cu; CuNb	6-10	Threatening in evening; much thunder and lightning
7	740.9	24.2	47	35.2	13.1			SE	24	ESE	18	ESE	20	ESE	16	ASt	0- 1		0	Sand storm preceding night and all today
8	742.5	21.2	38	31.6	16.2			ESE	18	ESE	18	SE	14	SE	9	CiSt; ASt	0- 1	CiSt; ASt	0- 1	Sand storm in early hours
9	740.5	20.6	36	29.4	12.1			ESE	16	ESE	16	SE	10	SE	6	Ci; CiSt; ACu	4- 6	Ci; CiSt; ACu	4- 6	Hazy
10	738.1	22.4	39	30.2	13.1			SE	12	ESE	14	SSE	10	SSE	6	ASt	0- 1		0	
11	737.3	23.0	46	32.6	15.1			SSE	13	E	10	SE	8	S	7		0		0	Probably smoky in evening
12	735.1	26.4	43	35.2	16.7			SE	9	E	10	ESE	5	SSW	10	CiSt; ASt	0- 1	ACu	1- 3	Smoke apparently coming from SE
13	735.8	24.8	45	34.6	15.3			SSW	4	SE	14	SE	8	S	7	Ci; CiSt; ASt	7- 8	Ci; CiSt; ASt	7- 8	Lightning in E in evening
14	738.7	23.5	41	34.5	14.8			SE	17	ESE	18	SE	8	SE	6	Ci; CiSt; ACu	7- 8	Ci; CiSt; ACu	9-10	Light rain in pm
15	738.6	27.4	40	29.1	19.5	T		NE	8	NE	17	NE	16	E	8	ACu; ASt; CuNb	10	Ci; CiSt; ACu; ASt	10- 4	Threatening in am; lightning in S in evening
16	737.0	27.2	45	37.1	15.1			ESE	4	NNE	9	SSW	2	SSW	5	ASt	0- 1	Cu	4- 6	Strong smell of smoke in evening; also lightning in SE
17	736.3	24.4	60	35.4	14.7	T		S	3	SSE	5	SW	4	SSW	8		0	ACu	1- 3	Fog or mist till sunrise
18	733.5	28.4	41	34.3	15.0			SSW	1	NW	3	WSW	14	SSW	10	ACu	1- 3	ACu	1- 3	Some smoke from SW
19	734.9	19.0	63	23.3	12.5	0.04		..	0	SSW	14	SSW	17	SSW	6	CuNb	7-10	CuNb; Cu	7- 8	Rain in earliest hours
20	739.3	17.1	35	25.9	6.3			SSE	5	SE	15	ESE	12	S	10		0		0	Slightly smoky after 14h
21	740.7	20.3	32	30.4	10.1			SE	13	E	20	E	16	ESE	6	CiSt; ACu	7- 9	CiSt; ACu	7- 8	
22	738.1	21.5	36	27.5	13.8			E	10	E	20	ENE	22	ENE	22	ACu; ASt	7-10	ACu; ASt	7-10	Perhaps rain late at night
23	735.2	15.2	93	16.2	7.0	0.26		E	12	E	17	ESE	(13)	ESE	12	Nb	10	Nb	10	Light rain in earliest hours and all day
24	732.4	17.7	91	22.8	13.9	0.34		ESE	5	E	2	W	1	W	5	Nb	10	Nb	10	Drizzling rain at intervals
25	734.9	19.6	90	26.3	16.3	0.05		WSW	3	WSW	7	SSW	13	SSW	13	Cu; CuNb	7-10	Cu; CuNb	7-10	Occasional showers
26	739.2	18.8	48	24.0	14.0	0.03		SSW	14	SSE	15	S	15	S	10	FrCu; StCu	1- 6	FrCu; StCu	4- 6	
27	742.9	16.8	37	25.8	8.2			SSE	8	ESE	17	ESE	14	S	8		0		0	Smoky at 21h
28	742.5	21.5	43	30.3	11.9			ESE	7	E	13	ESE	5	SE	3		0		0	
29	737.8	25.8	41	31.8	11.1			SSW	3	W	2	SW	6	SSW	8		0		0	
30	738.6	20.2	56	31.1	11.1			S	5	SE	12	SE	4	S	7	CiSt	4- 6	CiSt	4- 6	Hazy or smoky at 9h
31	739.0	23.5	43	35.6	11.0			S	3	E	8	V	2	SSW	9		0		0	Smell of smoke about 19h
SUM						0.72														
MEAN	738.1	23.5	46	31.5	13.6				7.7		11.2		9.6		8.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 55

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				165	140	86	81	94	—	—	—	124	128	129	137	141	140	142	141	147	150	124	[61	105	118	121	137]		0
2				138	137	146	150	145	190	267	279	253	247	226	192	185	179	—	—	—	—	—	—	—	[56	41	52]		0
3	✓			[66	75	97	112]	148	211	275	306	282	267	250	172	151	137	136	[129	110	83	73	78	79	83	85	83]	145	0
4				—	—	—	—	—	—	—	—	112	118	133	145	137	128	113	99	98	94	94	101	108	95	91	—		0
5				—	—	—	—	—	—	—	—	307	275	246	225	210	194	199	187	192	[116	35	28	44	86	83	69]		0
6	✓			[70	71	87]	150	204	267	285	283	277	277	266	237	209	(195	172)	[118	121	79	43]	≷ 79	51	43	41	105 ≷	155	1
7	✓	✓		138	146	142	145	153	162	168	165	175	176	162	162	153	151	158	152	150	148	150	151	151	146	157	147	154	1
8	✓			155	162	166	177	187	191	196	202	202	200	199	195	184	179	177	179	171	165	161	162	172	171	175	175	179	0
9	✓			165	161	182	187	195	197	206	212	214	214	211	210	207	195	189	190	176	171	160	160	172	179	190	205	190	0
10	✓	✓		197	200	206	217	225	235	243	252	256	246	225	211	202	190	166	152	143	134	128	137	160	177	174	187	194	0
11	✓	✓		187	192	204	210	201	202	205	211	211	211	190	182	179	175	174	171	165	165	162	166	[86	44	48	57]	167	0
12	✓	✓		[57	69	158]	241	256	260	264	266	252	237	220	207	190	182	172	170	165	153	[62	26	35	32	32	40]	156	0
13	✓	✓		[47	53	57	61	62	85	160]	240	250	262	258	245	226	200	(187	161)	147	143	140	150	[86	61	94]	171	148	0
14	✓			177	180	190	202	192	189	197	212	211	215	222	235	(225	221)	212	196	175	166	171	186	200	200	187	186	198	1
15	✓	✓		196	202	(191	190)	187	190	180	171	165	161	160	161	153	152	161	162	165	162	172	182	184	190	206	225	178	1
16	✓	✓		229	232	251	278	279	266	252	224	199	184	180	187	175	172	171	152	153	158	165	[74	29	54	81	126]	178	0
17	✓	✓		140	124	97	[87	81	86	70	67	74]	86	86	98	116	122	122	126	[60	86	83	34	49	56	65	82]	87	0
18				[87	94]	—	—	—	—	—	—	137	151	165	141	112	89	99	[57	54	95	87]	121	128	138	143	157		0
19				175	195	199	201	162	160	158	140	130	132	133	134	133	124	126	132	133	124	133	137	133	145	158	175		0
20	✓	✓		160	145	128	118	128	162	177	187	165	163	150	137	120	[99	54	35	40	66]	102	109	[58	57	66	62]	112	0
21	✓	✓		[86]	150	180	167	161	174	180	190	177	171	172	177	136	145	142	134	122	118	113	[105	90	110]	209	204	151	0
22	✓			217	224	235	215	182	162	177	185	180	174	201	200	202	201	190	189	190	192	194	191	190	187	158	162	192	2
23	✓			175	182	187	195	197	200	210	191	216	212	200	214	231	227	235	242	237	252	253	225	216	195	177	187	211	2
24	✓	✓		236	241	230	241	264	248	256	261	237	225	229	231	212	225	232	204	175	162	165	153	150	151	160	170	211	1
25	✓	✓		150	137	136	155	180	191	212	200	209	210	200	197	187	162	152	151	160	156	150	155	138	142	138	137	167	1
26	✓	✓		140	160	163	162	165	160	155	147	150	157	155	148	132	114	113	[108	70	114	126]	150	129	134	128	122	138	0
27	✓	✓		116	126	147	166	185	197	201	192	176	172	150	126	120	(113	99)	95	98	99	108	106	[53	53	49	58]	125	0
28	✓	✓		[83	85	124]	204	216	220	226	225	227	220	197	185	174	162	155	137	128	133	137	156	175	[141	56	61]	159	0
29				[73]	—	—	—	—	—	—	—	246	217	170	171	145	120	120	124	118	[108	52	81]	137	145	152	143		0
30	✓	✓		112	121	137	142	134	126	112	150	167	165	172	165	166	162	157	141	113	105	110	114	121	109	94	[83]	132	0
31	✓	✓		[83	83	83	86	145]	246	230	210	220	226	216	206	200	201	190	187	184	175	[56	90	85	97]	120	132	156	0
MEANS * 24 DAYS				141	147	157	171	180	193	202	206	204	201	195	187	177	170	163	153	142	141	133	131	119	117	120	132	162	
MEANS † 17 DAYS				139	145	155	169	178	189	194	198	195	192	184	178	167	160	153	143	132	134	125	121	105	103	110	121	154	
MEANS ‡ 7 DAYS				178	183	191	195	195	198	201	200	191	187	178	167	153	154	148	145	142	140	140	147	144	154	172	179	170	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 56

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				135	113	68	65	71	—	—	—	113	116	115	125	137	141	145	143	145	146	121	[53	72	76	90	99]		0
2				111	111	119	123	121	163	273	286	261	256	238	204	194	191	—	—	—	—	—	—	—	[41	39	50]		0
3	✓			56	62	76	88	125	195	273	319	298	288	271	181	154	136	134	[122	95	74	64	62	63	65	64	64]	139	0
4				—	—	—	—	—	—	—	—	—	108	107	110	125	118	108	96	88	90	87	90	89	83	72	78		0
5				88	76	65	59	66	69	141	291	344	296	262	244	226	215	214	193	170	[116	36	26	32	76	74	56]		0
6	✓			[54	62	71]	115	180	241	270	289	296	293	280	244	213	206	210	[118	118	87	40}	64	63	41	64	78}	154	1
7	✓	✓		152	146	148	149	148	157	161	171	187	194	192	192	190	188	185	184	172	169	162	157	157	153	158	154	168	1
8	✓			157	168	167	173	178	188	194	202	201	211	214	213	213	218	215	215	202	188	180	174	176	182	184	191	192	0
9	✓			169	168	179	192	202	200	206	210	216	230	240	239	238	234	224	216	206	190	174	169	161	172	185	208	201	0
10	✓	✓	✓	200	202	214	216	237	247	259	270	274	270	249	239	236	219	193	176	157	143	133	137	148	156	168	176	205	0
11	✓	✓	✓	190	192	196	204	194	196	211	219	222	219	203	192	186	180	181	170	177	169	169	159	[66	37	40	45	167	0
12	✓	✓		[40	42	145]	239	249	261	272	288	289	254	231	208	194	182	180	178	167	157	[53	28	35	27	26	27]	157	0
13	✓	✓		[32	41	51	51	52	76	146]	251	264	284	293	280	249	223	191	(161	142)	143	134	133	[74	48	76]	179	149	0
14	✓			185	182	194	195	192	192	206	224	225	231	246	249	263	(271)	251	192	184	168	169	169	178	169	158	154	202	1
15	✓	✓		177	182	(146	157)	169	165	167	165	172	168	167	159	162	158	167	167	171	161	161	168	165	169	178	186	167	1
16	✓	✓	✓	192	198	225	248	252	249	226	218	206	191	191	193	184	191	182	159	159	161	157	68	26	51	68	101	171	0
17	✓	✓		123	106	85	[77	66	60	62	60	62]	76	84	91	110	123	123	125	[59	91	85	40	41	52	56	64]	80	0
18				[66	75	68	80]	111	136	143	121	128	159	178	153	121	98	101	[60	48	91	90]	113	110	108	108	122		0
19				—	—	—	—	—	—	—	—	—	141	150	148	146	130	139	142	136	125	133	123	106	118	134	149		0
20	✓	✓	✓	135	127	103	97	107	146	169	192	188	194	182	167	143	90	[51	20	40	72]	106	99	[45	50	50	42]	109	0
21	✓	✓		[70]	159	184	173	169	185	203	213	198	191	204	206	146	159	157	148	132	126	116	[107	86	101]	222	222	162	0
22	✓		✓	226	230	244	225	192	172	188	202	187	191	238	249	249	249	237	228	218	224	223	215	203	192	171	172	214	2
23	✓			198	205	206	204	201	215	234	271	242	240	204	238	246	241	242	248	244	264	260	231	214	192	180	190	225	2
24	✓	✓		240	247	226	249	268	249	251	271	239	219	223	226	206	215	230	201	164	154	157	154	148	146	154	157	208	1
25	✓	✓		137	127	123	148	171	180	193	182	192	205	208	203	203	168	157	157	168	156	145	146	128	126	116	122	161	1
26	✓	✓	✓	123	139	147	146	147	146	146	147	148	161	170	162	140	125	122	[110	76	124	130]	136	115	121	116	108	134	0
27	✓	✓	✓	105	111	124	147	169	194	204	210	190	181	161	139	126	116	(101	101)	101	101	104	98	[47	42	40	50]	123	0
28	✓	✓		[65	68	106]	192	213	213	223	239	249	241	226	207	201	182	169	146	131	134	136	142	150	[123	45	46]	160	0
29				[52	68	76	80	88	87	95	192]	247	231	177	170	146	121	115	123	114	[103	51	75]	115	123	132	123		0
30	✓	✓		91	97	107	99	105	101	92	146	154	168	172	165	161	161	155	133	104	98	99	103	107	99	81	[65]	119	0
31	✓	✓		[56	50	50	64	110]	218	224	206	218	222	217	203	205	206	196	192	185	169	[54	87	74	89]	115	116	147	0
MEANS * 24 DAYS				132	138	147	160	171	185	199	215	213	213	211	202	192	185	177	161	149	147	134	127	111	108	113	122	163	
MEANS † 17 DAYS				125	131	140	156	166	179	189	203	203	202	198	190	179	170	161	149	136	137	124	115	95	94	101	109	152	
MEANS ‡ 7 DAYS				167	171	179	183	185	193	200	208	201	203	200	187	170	169	163	158	153	146	142	141	130	138	160	167	171	

DESIGNATIONS AND REMARKS:

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( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 57

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓			[140	194	229	217	194	200	177	123]	94	79	65	60	60	75	69	79	85	75	[99	140	169	229	123]	97	128	0
2	✓	✓	✓	73	101	108	123	99	87	77	69	69	65	[67	69]	69	67	75	79	82	99	117	94	92	115	143	123	90	0
3	✓	✓	✓	111	106	113	120	106	85	73	60	60	55	50	55	60	67	65	77	75	75	75	85	[117	115	140	150]	87	0
4	✓	✓	✓	120	103	101	73	67	58	63	63	69	94	73	75	77	75	85	67	60	65	75	79	75	75	75	94	78	0
5				[145	258	—	—	—]	94	60	94	92	89	89	79	82	85	82	82	85	77	75	85	92	97	89	77		0
6	✓			73	53	50	42	53	58	53	65	77	85	89	85	89	89	99	[113	131	131	140	152	169	235	181]	94	100	0
7	✓	✓		[143	115	67]	33	N 23	25	46	75	94	89	89	89	94	106	101	111	111	115	117	123	113	103	99	103	91	1
8				—	—	—	—	—	—	—	—	69	85	94	94	99	99	99	113	103	94	99	99	94	103	108	117		0
9	✓	✓	✓	136	131	127	145	145	129	125	115	103	113	94	89	94	89	94	103	[117	131	154	145	140]	108	108	117	119	0
10	✓	✓		117	[131	167	221	267	248	217]	127	103	94	94	94	94	117	103	103	94	108	94	[127	297	340	280	217]	161	0
11	✓	✓		[190	254	213	227	204	177	140]	150	108	75	69	≷ 79	85	127	158	158	123	127	158	154	127	103	103	85≷	141	0
12	✓	✓		≷103	103	85	60	94	99	117≷	94	79	79	89	87	82	87	97	97	97	108	103	113	120	127	103	99	97	0
13	✓	✓	✓	97	85	94	97	75	58	53	65	92	92	92	111	111	111	106	115	108	115	106	111	108	117	108	123	98	0
14	✓	✓	✓	99	103	123	120	115	101	89	79	75	92	(97)	108	111	99	101	106	120	136	117	117	136	154	140	123	111	0
15	✓	✓	✓	127	123	131	127	123	113	108	115	111	106	99	94	92	87	79	79	[111	136	145	108	127	136	145	158]	116	0
16				[186	167	163	167	163	117]	99	75	69	69	65	65	75	65	69	79	89	99≷	89	N 94	N 75	140	103	Z ≷		1
17				≷ Z	Z	85	103	Z	Z	Z ≷	69	30	40	55	65	69	60	≷N 35	N 55	99	75	69	89	173	194	145	136≷		1
18	✓			136	131	123	123	108	89	94	94	85	103	89	79	94	113	123	127	123	131	131	125	127	129	117	101	112	0
19	✓	✓		97	92	115	133	120	111	94	97	[111	127	127	123	113]	113	113	123	127	129	[143	165	169]	120	115	106	120	0
20	✓	✓		136	148	143	129	115	92	79	82	[106	106	108	106	106	101	103	125	125	127	138	156	258	204	200	167]	132	0
21				150	127	131	136	136	123	103	113	75	(69)	69	79	89	94≷	Z	Z	Z	58	Z	77≷	82	97	125	115		1
22				108	97	75	89	161≷	125	Z	Z	Z	Z	Z	Z	Z	Z ≷	[129	154	158	177	225	248	258	355	280	167]		2
23				60	—	—	—	—	—	127	158	145	138	136	136	131	129	129	129	129	125	[131	148	161	190	208	192]		0
24	✓			[167	165	194	186	183	183	173	143]	117	103	101	94	103	94	101	120	117	108	106	[129	256	291	190	115]	147	0
25	✓	✓		111	103	85	79	79	69	65	75	69	67	75	69	69	79	79	89	92	87	92	97	[123	150	177	177]	94	0
26	✓	✓		158	167	145	117	89	65	65	69	55	60	60	≷N 46	N 53	N 58	58	N 65≷	[N 50	67	99	108	85	113]	≷N 23≷	[131]	84	1
27	✓	✓		≷ 48	33	N 40	85	79	69	73	92	87	87	53	42	28	48	50	63	(60)	55	28	33	38	42	87	75≷	58	1
28	✓			75	67	60	65	53	63	50	55	53	53	(35)	53	53	60	69	65	60	79	[123	140	94	136]	87	82	72	0
29																													
30																													
31																													
MEANS * 21 DAYS				117	119	120	120	114	104	97	91	87	87	82	81	83	89	92	98	98	105	112	119	140	150	131	121	107	
MEANS † 16 DAYS				117	119	116	118	112	99	93	89	87	88	84	84	84	89	92	98	97	105	110	113	133	133	128	128	105	
MEANS ‡ 7 DAYS				109	107	114	115	104	90	84	81	83	88	80	85	86	85	89	92	92	99	99	100	106	115	117	118	97	

DESIGNATIONS AND REMARKS:

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( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 58

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1925

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR PRESS.	AIR TEMP.	REL HUM	MAX TEMP	MIN. TEMP	RAIN-FALL	SUN-SHINE	02h-03h	08h-09h	14h-15h	20h-21h	FORENOON		AFTERNOON		
								DIR. VEL.	DIR. VEL.	DIR. VEL.	DIR. VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr	m/h	m/h	m/h	m/h					
1	739.3	23.5	51	35.1	14.1			S 5	SSE 9	S 6	.. 7		0		0	Fire in S at 18h; smell of smoke at 21h
2	740.7	22.4	47	34.8	14.3			ESE 16	E 16	ESE 10	ESE 6		0		0	Hazy in E
3	739.5	28.0	33	36.3	16.6			ESE 6	ENE 16	ENE 13	E 8		0	ACu	0- 1	
4	737.7	29.3	31	38.1	19.0			ENE 6	NE 15	N 4	W 2	CiCu; ASt	1- 3	CiCu; ASt	1- 3	Fire in S at 12h; mist at night
5	736.2	21.8	66	36.2	13.5			W 1	N 2	N 8	W 6	ASt; ACu	1- 3	ASt; ACu	1- 3	Mist early and till 8h
6	735.9	21.9	62	31.2	11.6			.. 0	N 6	NW 8	W 4	Cu; StCu	10- 7	Cu	6- 0	Smoke from W in pm; strong smell of smoke at 21h
7	736.3	22.9	61	29.9	12.5			.. 0	NNW 4	NW 8	W 4	ACu; Cu	7-10	ACu; Cu	7- 8	Air appears smoky at 9h and 17h
8	735.7	23.0	69	28.5	11.7	T		W 2	WNW 5	WSW 10	SW 8	CuNb; Cu	7- 8	ACu; CuNb	7- 8	Few drops rain at 9h; hazy in E
9	738.5	19.8	49	27.4	8.8			SW 2	SSE 11	SSW 4	SSW 9	FrCu	4- 6	FrCu	4- 6	
10	738.4	21.0	49	30.6	10.5			SSW 2	ESE 9	SE 2	SSW 6	Ci; CiSt; Cu; StCu	7- 9	Ci; CiCu; CiSt	7- 8	Hazy at 21h and smell of smoke later
11	733.0	23.3	41	38.3	11.7			S 2	.. 0	W 13	W 3	ACu; ASt	7-10	Ci; CiSt; CiCu	7-10	
12	737.0	20.2	52	22.7	13.6	0.04		WNW 4	WSW 10	SW 10	SSW 3	Cu	7-10	Cu	4- 6	Rain in early hours or previous night
13	739.2	18.8	53	27.9	6.4			SSW 3	SE 5	SSW 5	S 8	FrCu	0- 1		0	Dew early
14	737.9	21.7	54	31.6	10.8			S 4	SE 9	SSW 6	SSW 13		0		0	Dew early
15	735.4	19.9	61	31.6	11.6			S 8	ESE 11	SSW 9	SSW 12	ACu	0- 1		0	Very smoky in E in am; smoky at Obs'y after 17h
16	736.3	21.8	50	29.2	12.8			S 7	ESE 18	SE 14	ESE 8	ACu; ASt	9-10	Cu; CuNb	10	Rain at 19h to 21h and again during night
17	733.1	22.4	88	27.2	15.9	0.08		E 6	ESE 1	WSW 13	SW 8	CuNb	10	CuNb	10	Rain in early hours and at intervals in day and evening
18	740.7	16.4	65	24.3	10.2	0.02		SW 6	SSW 13	SSW 7	SSW 7	Cu; CuNb	10	CuNb; Ci; ASt	10- 4	Hazy in E
19	741.2	19.1	51	29.6	8.8			S 3	SSE 8	SW 3	S 11	Ci; CiSt; ACu; ASt	3- 6	Ci; CiSt; ACu; ASt	4- 6	Dew early; smell of smoke at 9h; smoky in E
20	742.6	20.8	48	31.9	9.7			S 4	ESE 13	SE 3	SE 4	CiSt; ASt	1- 3	CiSt; ASt	4- 6	Air smoky in E and S; some smell of smoke at Observatory
21	740.6	25.8	36	37.9	17.6			SE 5	ENE 8	ENE 2	NE 1	ACu; ASt	7- 8	Cu; CuNb; Nb	9-10	Thundershower 16h-17h, clearing thereafter
22	739.2	22.5	81	32.2	16.6	0.46		.. 0	SE 2	W 5	SSW 8	Ci; CiSt; Cu; CuNb	7-10	Ci; CiSt; ACu	4- 6	Few drops rain in am; air smoky in pm and evening
23	739.8	22.2	59	29.7	14.8			S 2	ESE 16	SE 15	SE 14		0		0	Air smoky in late pm
24	740.9	19.0	57	30.4	12.4			E 16	E 17	E 17	E 11	FrCu	1- 3	FrCu	1- 3	Smoky in evening; lightning to NW in evening
25	737.0	24.7	32	32.4	13.9			E 6	ENE 14	ESE 8	ESE 4	ACu; ASt	1- 3	CiCu	1- 3	Slightly smoky in late pm
26	735.8	25.5	31	30.0	14.3			SE 4	E 13	ESE 9	E 10	ACu; ASt; Ci; CiSt	3- 8	CiSt; ACu; ASt	7-10	Rain in evening; smoke smell at 17h
27	730.8	19.2	78	24.4	3.1	0.09		ESE 12	ENE 17	E 4	NW 2	Nb	7-10	Nb	7-10	Showers at intervals
28	733.6	24.5	70	34.2	16.5	T		.. 0	NNE 4	NW 2	SSW 3	ASt; ACu	7-10	ASt; ACu	7-10	Air smoky in evening; threatening sky at night
29																
30																
31																
SUM						0.69										
MEAN	737.6	22.2	54	30.8	12.6			4.7	9.7	7.8	6.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 59

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈113	76	71⌋	—	—	—	—	—	—	152	184	183	173	157	147	134	106	97	⌈89	71	73	68	155⌋	158		0
2	✓	✓	✓	137	150	147	152	171	182	181	174	163	163	172	184	177	163	159	137	⌈84	62	60	131⌋	159	130	98	123	144	0
3	✓	✓	✓	147	169	174	164	155	168	209	240	213	201	189	183	174	(177	162)	159	147	130	158	⌈157	88	96	85	93⌋	160	0
4	✓	✓	✓	131	172	191	269	281	279	260	234	182	⌈81	116	123⌋	159	134	131	133	126	139	148	140	142	138	147	116	166	0
5				86	79	—	—	—	—	—	—	—	146	137	144	—	—	—	—	—	122	119	113	110	117	122	134		0
6				160	182	216	290	237	197	188	199	143	138	130	130	123	121	110	⌈79	71	71	68	72	58	39	42	48⌋		0
7	✓	✓		⌈64	80	81	67⌋	102	105	142	122	113	94	100	105	92	81	75	67	61	81	89	93	101	108	116	109	94	1
8	✓			84	96	92	88	100	77	110	166	123	86	76	83	104	104	106	100	110	123	126	123	139	134	138	134	109	0
9	✓	✓		140	150	174	162	149	158	157	169	157	154	164	162	158	148	134	147	109	80	64	92	104	137	142	125	139	0
10	✓	✓		119	105	86	66	57	61	79	134	160	162	160	168	154	(152	147)	150	158	163	164	154	53	41	58	67	117	0
11	✓	✓		72	62	60	60	61	80	108	119	182	217	241	204	184	108	76	68	108	114	94	108	158	172	169	199	126	0
12	✓	✓		184	176	176	167	168	146	139	147	144	147	150	138	149	150	148	147	147	147	149	146	148	121	167	187	154	0
13	✓	✓		192	199	196	189	217	238	281	265	182	179	173	169	157	152	138	130	133	146	155	148	137	149	158	159	177	0
14	✓	✓		163	155	137	134	147	157	188	189	185	158	147	131	123	139	155	163	104	85	123	130	112	96	97	113	139	0
15	✓	✓		125	125	125	130	135	135	(134	133	131)	130	119	129	139	139	152	160	⌈79	53	53	77	75	75	77	71⌋	113	0
16	✓			⌈61	67	71	75	84	104⌋	112	147	142	125	125	147	114	112	138	112	98	96	79	77	81	86	98	137	104	1
17				159	147	213	259	≷260	219	233≶	266	255	243	196	182	172	(197	163)	144	114	94	92	—	—	—	—	—		1
18				—	—	—	—	—	—	—	—	—	—	—	159	159	137	134	131	142	146	146	147	159	162	163	173		0
19	✓	✓		184	189	152	130	134	137	143	119	100	96	90	92	105	106	108	98	90	86	92	⌈96	100⌋	134	148	147	120	0
20	✓	✓		110	105	108	113	125	134	139	109	⌈77	73	79	71	72	84⌋	92	98	⌈88	45	50	73	66	61	58	76⌋	88	0
21				88	85	123	134	147	158	172	164	204	219	209	196	176	147	—	—	—	298	172	184	193	168	133	149		1
22	✓			162	185	221	204	176	183≷	≷131	213	157	113	144	160	176	131≶	129	81	77	80	63	73	63	43	69	88	130	2
23				81	84	75	72	79	83	88	86	90	79	79	76	81	77	⌈55	41	42⌋	—	—	—	—	—	—	—		0
24				—	—	—	—	—	—	—	—	—	152	—	—	148	(127	106)	58	94	113	139	⌈127	55	46	98	169⌋		0
25	✓	✓		150	172	210	211	220	235	235	237	226	208	205	197	187	172	148	⌈98	66	68	76	92	72	58	50	63⌋	152	0
26	✓	✓		⌈69	83	108	129⌋	182	220	229	223	255	227	174	134	143	172	147	138	173	⌈123	93	93	113	123	113	113⌋	149	1
27	✓	✓		131	127	147	154	140	131	149	148	153	152	158	196	245	269	244	245	237	245	246	231	237	237	231	233	195	1
28				241	259	316	304	324	287	294	270	299	292	287	260	244	235	221	207	199	185	⌈81	68	122	113⌋	184	187		0
29																													
30																													
31																													
MEANS * 19 DAYS				128	135	140	140	148	154	165	173	160	146	146	146	148	142	136	128	116	109	110	118	113	113	117	124	136	
MEANS † 16 DAYS				132	139	142	144	153	160	173	173	164	153	152	149	151	147	138	134	119	110	113	123	117	117	120	125	140	
MEANS ‡ 7 DAYS				148	160	163	171	179	188	201	201	173	152	159	156	157	152	147	145	122	119	131	139	132	123	127	132	153	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 60

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[94	63	51	51	58	57	65	94]	127	143	188	187	178	154	151	134	101	94	[87	63	60	48	143]	148		0
2	✓	✓	✓	140	143	142	135	157	170	176	171	168	168	172	189	187	171	159	135	[79	60	57	125]	152	108	87	112	140	0
3	✓	✓	✓	133	143	152	144	135	151	196	246	224	208	199	191	180	178	(179	151)	136	128	161	[143	76	87	83	86]	155	0
4	✓	✓	✓	118	151	166	246	258	266	253	241	181	[74	111	118]	169	135	128	134	135	146	144	114	122	122	129	98	157	0
5				[68	63	54	85]	—	—	—	—	130	132	132	139	147	165	172	159	129	120	112	99	88	85	—	—			0
6				—	—	—	—	—	—	—	—	—	122	115	122	125	123	108	[74	62	63	65	60	48	32	37	33]		0
7	✓	✓		[38	53	54	65]	75	85	118	111	100	87	92	99	87	70	73	63	60	72	80	73	83	87	89	87	79	1
8	✓			63	70	66	62	73	59	93	139	116	85	65	74	99	95	94	87	95	113	108	108	118	113	108	108	92	0
9	✓	✓	✓	88	100	119	106	87	95	106	141	149	154	166	165	170	157	133	133	107	73	61	75	89	116	116	106	117	0
10	✓	✓		87	74	61	49	39	39	59	120	157	166	157	162	140	132	(137)	143	144	134	121	109	40	28	45	50	100	0
11	✓	✓		52	40	44	45	46	56	90	87	148	217	250	205	195	108	73	63	96	103	75	79	106	126	140	158	108	0
12	✓	✓		139	139	137	136	120	96	101	122	135	136	152	152	154	151	146	147	144	133	126	112	107	85	122	141	131	0
13	✓	✓	✓	154	173	146	149	197	221	241	242	177	168	176	168	166	161	134	132	137	143	151	129	125	125	136	132	162	0
14	✓	✓	✓	136	132	112	114	125	135	146	188	187	165	144	126	119	134	156	163	101	85	118	120	96	86	87	108	128	0
15	✓	✓	✓	109	109	108	109	112	115	118	120	120	120	118	128	139	144	158	165	[73	51	48	73	73	74	72	63]	105	0
16	✓			[51	57	61	61	68	90]	114	147	141	128	134	156	122	127	146	119	98	99	80	81	87	83	101	96	102	1
17				134	125	201	229	251	269	248	248	266	237	201	180	183	199	(185	143)	106	86	85	69	61	62	83	92		1
18				89	96	106	98	105	108	133	159	155	154	155	158	149	140	140	134	135	133	127	122	125	127	134	141		0
19	✓	✓		142	146	114	106	107	111	123	111	98	89	83	85	96	99	99	93	87	83	87	[87	83]	123	133	132	105	0
20		✓	✓	93	76	85	94	108	123	132	109	[90	74	75	73	74	85]	88	94	[78	43	48	65	43	50	52	60]	80	0
21				73	89	108	119	129	135	163	165	200	224	205	192	176	142	≷ 140 ≷	—	—	307	120	166	150	132	109	111		1
22	✓			129	171	205	176	120	144	235	≷ 183	196 ≷	212	184	≷ 73	50	134	108 ≷	65	65	73	50	51	50	32	45	58	117	2
23				58	53	43	39	51	61	76	81	86	75	75	68	74	70	[50	40	42	32	39	40	38	37	37	52]		0
24				[88	83	63	73	80	65	73	111]	137	151	—	—	152	146	(123	57)	95	111	133	[119	53	44	90	156]		0
25	✓	✓		144	158	193	201	205	213	230	235	229	226	218	210	197	176	154	[98	66	68	75	82	65	58	45	45]	150	0
26	✓	✓		[53	63	82	105]	164	192	203	232	260	233	189	144	149	180	159	151	181	[121	88	92	114	120	127	114]	146	1
27	✓	✓		139	132	149	151	142	134	148	148	162	151	157	192	243	271	233	214	219	206	225	221	235	222	189	192	186	1
28				201	228	—	—	—	—	—	—	—	302	314	283	260	246	227	217	201	176	[83	61	111	99]	158	157		0
29																													
30																													
31																													
MEANS * 19 DAYS				106	112	116	119	123	131	152	163	160	151	150	143	144	143	135	124	111	102	100	102	98	97	100	102	124	
MEANS † 16 DAYS				110	114	116	122	130	138	152	164	162	152	154	150	154	147	138	130	115	103	104	106	101	101	103	105	128	
MEANS ‡ 7 DAYS				125	136	135	143	153	165	177	193	172	151	160	158	163	155	148	142	118	115	123	122	114	104	107	112	141	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 61

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	102	104	100	78	100	98	98	82	66	86	80	76	71	76	104	90	⌈118	107	104	98⌋	114	110	114	104	95	0
2	✓			≷104	80	90≷	95	74	74	66	82	82	80	86	82	90	80	86	76	82	80	⌈ 90	118	146	146	124⌋	104	92	0
3	✓			114	124	110	124	104	95	76	76	71	61	47	47	56	56	51	56	71	71	≷ 86	86	95≷	132	139	146	87	0
4				128	110	86	88	≷N 36≷	78	76	54	43	41	39	54	56	56	71	71	≷ Z	47	66	90	30	76	90≷	137		1
5	✓			86	80	76	71	≷ 36	26	95	128	100	76	71	36≷	71	80	86	86	80	86	100	104	118	132	142	⌈146⌋	88	1
6	✓			≷128	142	132	86	N 61	71	90	100≷	104	95	80	100	90	86	80	80	90	92	92	104	116	116	116	107	98	1
7	✓			≷100	110	114	100	142	71	47	26	21	47	(30)	51≷	68	74	90	90	98	104	95	107	107	102	100	100	83	0
8				⌈114	178	135	95	Z	238	240	153	128	98⌋	80	86	71	71	80	92	⌈104	144	167	137⌋	95	95	88	88		0
9	✓			78	88	95	68	56	43	68	82	88	80	88	80	76	90	100	104	100	118	132	110	118	128	142	124	94	0
10	✓			114	114	124	146	110	118	118	112	88	88	86	80	80	78	82	⌈ 98	95	90	90	76	100	118	124	132⌋	103	0
11	✓			⌈151	210	255	215	178	142⌋	137	114	110	110	107	104	104	102	110	⌈120	124	128	137	165	159	178	210	196⌋	149	0
12	✓			⌈192	188	182	192	151	151	151	137	100⌋	80	80	90	86	90	90	100	95	⌈ 95	124	176	219	238	238	182⌋	143	0
13	✓			⌈128⌋	114	104	92	78	59	64	76	82	86	(104)	98	100	88	80	⌈ 88⌋	86	92	⌈110	248	192	178	278	196⌋	118	0
14	✓			⌈259	307	188	124	100	100	114	116	107	98	80	76	86	124	124	151	142	128	132	139	124	146	153	171⌋	137	0
15				⌈149	144	155	146	135	126	146	137⌋	100	100	107	98	86	100	110	104	116	128	128	⌈137	151	165⌋	—	—		0
16				—	—	—	—	—	—	—	—	—	71	74	⌈ 78	86	100	104	114	112	118	120	155	194	192	167	188⌋		0
17	✓			⌈203	215	196	174	159	120	90	80	78	95	86	95	102	110	102	107	107	116	90	100	118	118	157	184⌋	125	0
18				⌈159	167	116⌋	88	76	71	71	74	76	82	86	86	90	100	92	100	⌈128	174	264	194	78	95	118	— ⌋		0
19	✓	✓		⌈184	324	130⌋	≷132	126	144	128	151≷	124	114	114	124	124	128	142	146	132	142	146	159	151	178	155	201	150	0
20	✓	✓		⌈238	232	238	246	246	215	244	201	162	139	130	128	132	142	151	146	137	135	135	167	165	165	182	205⌋	178	0
21	✓	✓		⌈201	159⌋	142	128	114	104	95	86	71	71	(66)	80	86	95	102	100	104	⌈116	142	165	184	192	180	142⌋	122	0
22	✓	✓	✓	114	100	107	80	80	80	78	71	59	61	66	71	74	90	78	95	92	90	98	90	104	114	124	124	89	0
23	✓	✓		⌈192	298	341	327	251	188	155	90⌋	64	56	54	59	68	78	82	⌈ 92	167	176	165	178	159	146	159	178⌋	155	0
24	✓	✓		⌈188	182⌋	169	174	174	159	151	142	124	124	124	118	112	114	114	114	107	114	⌈126	153	178	165	162	149⌋	143	0
25	✓	✓		149	151	144	130	126	112	104	104	98	90	82	76	76	80	80	86	95	114	110	100	⌈157	171	116⌋	102	111	0
26	✓	✓	✓	98	92	98	90	88	82	78	74	78	78	78	74	74	76	80	95	100	104	114	132	126	82	80	88	90	0
27	✓	✓		80	68	64	⌈180	201	188	118	124⌋	128	124	104	100	100	118	118	124	137	⌈151	169	169	169	165	174	159≷	135	0
28				⌈182	196	273	—	—	—	—	327	159	165⌋	(151)	128	110	116	114	114	128	124	144	142	142	118	132	124		0
29	✓			⌈149	230	192	157	135	128	130	139	192	199	153	128	114	130	114	100⌋	110	112	107	110	95	90	64	76	131	0
30	✓	✓	✓	98	71	56	74	78	137	155	100	112	100	100	95	104	95	95	95	104	100	100	118	118	132	142	137	105	0
31	✓	✓	✓	137	137	146	146	146	128	114	114	100	95	114	104	104	95	66	100	110	110	118	128	128	142	137	132	119	0
MEANS * 25 DAYS				143	157	144	137	125	113	111	104	96	93	88	87	90	95	96	102	107	111	116	132	138	143	148	143	117	
MEANS † 12 DAYS				148	160	145	149	144	136	126	112	99	95	93	92	94	99	101	107	117	122	127	138	146	147	144	143	124	
MEANS ‡ 5 DAYS				110	101	101	94	98	105	105	88	83	84	88	84	85	86	85	95	105	102	107	113	118	116	119	117	100	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 62

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1925

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h	08h–09h	14h–15h	20h–21h	FORENOON		AFTERNOON		
								DIR. VEL.	DIR. VEL.	DIR. VEL.	DIR. VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	733.8	25.4	61	32.8	19.3			SSW 3	SSE 7	W 5	S 5	CiSt; CiCu; ACu; ASt	7-10	CiSt; CiCu; ACu; ASt	7-10	Dew early
2	735.5	24.5	68	33.5	17.4			S 4	SE 7	SSE 6	S 7	CiCu; CiSt; ACu; ASt	7-10	CiCu; CiSt; ACu; ASt	7-10	Smell of smoke at 21h
3	734.2	26.2	55	31.3	19.2			ESE 12	E 16	E 7	ESE 10	ACu; ASt; Cu; StCu	7-10	StCu; CuNb	7-10	Threatening in pm; rain at night
4	731.9	21.8	85	31.2	18.4	0.03		ESE 8	E 6	SW 2	.. 0	StCu; Nb	10	NbSt; Nb	10	Rain practically all day and evening
5	732.3	24.6	80	29.9	20.3	0.08		.. 0	W 6	WSW 8	SW 3	Cu; CuNb; Nb	10-4	CuNb; Nb	7-8	Nearly clear again by 21h
6	735.6	24.4	68	31.7	18.2	T		SW 1	.. 0	W 3	SW 4	Cu; CuNb	10-6	Cu; Nb	4-6	
7	737.5	20.8	89	26.4	16.2	T		SW 1	SW 3	SW 8	SW 3	CuNb; Nb	10	CuNb; Nb	10-4	Frequent drizzling rains in am
8	736.8	21.0	83	31.0	14.7	0.03		SW 1	S 2	V 2	SSW 5	FrCu; Nb	1-3	FrCu; Cu	1-3	Heavy fog early
9	738.9	21.9	67	27.9	12.1			SW 1	SSW 6	WSW 6	SW 6	FrCu; Cu	1-3	FrCu; Cu	1-3	Dew early
10	740.9	22.1	62	29.4	13.8			SSW 4	SSE 6	S 6	S 11	Cu	1-6	Cu	1-3	Dew early; smoky in pm and evening
11	743.3	22.3	58	28.8	13.1			S 4	ESE 18	ESE 15	ESE 10	FrCu	0-1		0	Dew early; hazy in late pm
12	744.0	21.4	54	31.8	14.6			ESE 10	E 13	ESE 12	ESE 6		0		0	Very hazy
13	741.2	26.1	59	35.7	17.1			ENE 7	NE 10	V 2	S 5		0	Cu	1-3	Smoky in pm; fires noted on all sides
14	738.5	29.5	36	36.5	15.3			.. 0	NNE 4	WSW 13	SSW 10	Cu; FrCu	1-3	Cu; FrCu	1-3	Much smoke all day; lightning in NE at night
15	741.4	22.2	49	28.9	13.8			S 4	SSE 16	SE 8	SE 10	ACu; ASt	0-1	ACu	0-1	Fires in NNW
16	743.1	19.3	56	29.4	12.8			ESE 10	E 10	ESE 6	SE 5	CiSt; CiCu	1-6	CiSt; CiCu	4-6	Smoke banks in SE, S, and SW
17	742.6	25.7	40	33.4	11.7			S 5	ENE 10	ESE 10	SSE 6	ACu	0-1		0	Much smoke in E, S, and W
18	742.1	28.4	37	38.1	17.8			E 2	NE 15	N 4	SW 4		0	ACu	1-3	Very smoky in E, S, and W; much smoke at ob's about 18h
19	741.1	22.4	72	28.0	16.9			WNW 6	W 6	SW 14	SSW 10	Cu; Nb; CuNb	10-5	Cu; CuNb	5-3	Few drops rain at 9h
20	743.7	20.2	56	25.7	10.8			S 6	SE 10	SE 13	SE 5	CiSt; ACu; Cu	3-6	CiSt; ACu; Cu	4-6	Smell of smoke at 9h; fires in SW and W
21	745.3	17.8	49	27.7	10.6			ESE 15	E 18	ESE 11	SE 6	FrACu	0-1		0	Fires in W; hazy in E
22	743.2	22.5	50	30.0	13.0			E 7	ENE 11	V 4	SSE 4	CiSt	0-1	CiSt	0-1	Fires in W; lightning in N and NE in evening
23	739.0	25.2	45	34.9	13.8			SSW 3	ENE 4	SW 4	S 7	CiSt; ACu	7-8	CiSt; ACu	7-8	Air very smoky after 15h
24	741.3	20.1	60	26.8	15.1			SE 14	ESE 19	ESE 17	ESE 13	Ci; CiSt	4-6	Ci; CiSt	4-6	
25	742.8	18.5	57	27.9	12.7			E 10	E 19	ESE 13	ESE 6	CiSt	0-1	CiSt	0-1	Hazy in S at 17h
26	741.0	22.2	51	33.4	14.9			E 7	ENE 14	NE 8	NNW 2	CiSt; ACu	1-6	CiSt; ACu	4-6	Fires in SW
27	739.9	24.4	69	28.3	14.0			.. 0	NW 4	WSW 8	SW 4	CiSt; CiCu; ACu	4-6	CiSt; CiCu; ACu	4-6	Heavy fog till 7h5; smoke from SW in late pm
28	742.4	19.7	74	27.4	9.8			SW 3	SSE 3	S 3	S 7	Cu; FrCu	4-6	Cu; FrCu	1-3	Heavy fog till 8h; smoke arrived 16h–17h
29	742.3	19.6	54	27.1	10.1			S 4	S 6	SW 10	SW 3	ACu; ASt	0-1	ACu; ASt	0-1	Smoke smell at 9h5; clear at night
30	741.3	20.1	46	27.3	6.2			.. 0	S 3	SW 7	SW 6	ACu; ASt; Cu	1-3	Cu; CuNb; ACu	7-8	Dew and mist early; nearby fires in W and NW
31	741.6	18.8	65	23.9	11.4			SSW 3	SSE 9	SSE 13	ESE 17	ACu; ASt; Cu; StCu	9-10	ACu; CuNb; StCu	10	Dew early; threatening in pm
SUM						0.14										
MEAN	740.0	22.6	60	30.2	14.4			5.0	9.1	8.0	6.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 63

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	203	188	144	184	184	169	163	169	189	196	192	184	182	177	172	168	[102	131	121	168]	153	147	169	172	168	0
2				134	168	174	184	194	184	192	150	159	159	130	139	116	129	127	112	97	102	105	[73	77	90	94	94]		0
3				93	108	121	127	152	164	162	178	—	—	—	—	181	177	182	174	137	196	≷110	172≷	166	110	110	116		0
4				135	137	159	182	194	199	228	221	234	235	232	209	176	166	167	172	(172)	169	158	167	173	189	147	117		1
5				157	167	174	172	164	157	149	157	153	162	162	158	158	162	168	173	168	168	162	162	149	129	123	135		1
6				146	142	140	144	148	166	179	174	179	184	191	193	187	185	189	168	167	174	181	179	166	169	183	189		1
7				192	193	199	211	199	211	229	214	203	201	184	202	196	173	192	183	182	185	187	184	173	182	189	196		0
8				199	178	184≷	184	71	117	98	134≷	171	207	196	194	191	187	187	172	[134	73	68	118]	166	172	181	187		0
9				198	207	197	209	225	221	205	176	160	167	169	172	159	149	147	144	140	(149	150	154	146)	146	133	152		0
10				162	164	176	183	185	152	147	157	182	174	(162	167)	184	176	171	[134	110	85	90]	129	129	[114	108	97]		0
11				[92	77	68	81	88	116]	117	129	133	130	116	98	108	106	114	[84	72	58	60	60	53	48	46	62]		0
12				[73	89	93	94	109	112	126	150	172]	197	184	162	149	146	125	112	131	[121	112	63	57	67	81	118]		0
13				[157]	211	268	282	281	294	285	262	226	189	139	150	138	149	159	176	172	[123	80	34	62	58	61	68]		0
14				[57	60	79	105	108	105	119	123	135	155	163	149	108	52	84	73	80	97	96	98	118	105	81	93]		0
15	✓			[112	129	133	143	157	144	100	116]	134	126	108	131	131	119	108	96	79	81	84	[79	66	63	66	68]	107	0
16	✓			[71	89	117	129]	159	172	174	184	192	197	191	181	150	154	147	127	137	[126	108	92	73	77	94	96]	135	0
17				[81	89	89	97	113	140	182	220	193	184	183	121	133	(133	134)	119	84	42	58	84	88	85	85	92]		0
18	✓			[121	127]	183	205	185	193	231	217	198	188	152	153	133	[98	134	118	90	84	14	27	66	79	71	48]	130	0
19	✓	✓		[135	63	157]	159	184	185	149	172	102	97	109	106	102	104	106	106	117	121	[98	81	89	68	60	52]	113	0
20	✓	✓		[45	45	45	46	45	56	60	73	81	86	80	86	83	76	79	75	77	71	69	56	53	60	66	62]	66	0
21	✓	✓		[75	108]	119	131	146	157	150	183	196	204	191	181	164	148	144	155	146	[117	106	94	92	93	105	155]	140	0
22	✓	✓	✓	189	197	205	237	235	239	251	263	279	281	241	221	213	214	201	185	164	172	166	189	163	149	147	148	206	0
23	✓	✓		[118	68	60	68	81	100	134	217]	269	296	297	284	257	231	189	[162	56	36	42	49	75	85	73	83]	139	0
24	✓	✓		[80	94]	109	108	110	118	119	116	143	135	122	112	108	(94	96)	106	105	96	[84	83	94]	123	126	137	109	0
25	✓	✓		137	147	150	172	173	171	177	193	176	181	201	199	191	(177	169)	162	149	147	181	189	[192	199	213]	225	178	0
26	✓	✓	✓	251	255	256	266	261	245	243	240	219	201	184	194	184	174	157	134	125	112	134	123	146	183	211	215	196	0
27	✓	✓		219	240	257	[139	130	129	144	144]	144	157	150	159	159	[105	102	75	93	108	112	102	93	96	98	97]	136	0
28				[94	97	63	48	66	55	53	68	100	79	92	118]	133	138	138	139	127	[89	60	92]	104	110	—	—		0
29				—	—	—	—	—	—	—	—	—	[52	64	76	81	56	56	93]	134	146	154	160	164	179	198	211		0
30	✓	✓	✓	199	219	245	213	[157	118	110]	205	159	179	181	178	176	169	143	147	142	[86]	158	159	158	157	163	176	167	0
31	✓	✓	✓	169	167	155	146	137	147	172	157	169	169	130	121	122	(110	112)	108	84	89	85	81	98	109	135	138	130	0
MEANS * 15 DAYS				142	142	156	156	156	156	158	177	177	180	169	166	157	143	137	128	111	105	104	105	107	113	120	125	141	
MEANS † 12 DAYS				152	149	158	156	154	153	156	178	177	182	173	169	162	148	139	132	113	107	113	114	117	122	130	138	146	
MEANS ‡ 5 DAYS				202	205	201	209	195	184	188	207	203	205	186	180	175	169	157	148	123	118	133	144	144	149	165	170	173	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 64

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	172	165	131	170	162	153	149	160	179	180	185	190	184	182	170	168	[91	120	113	143]	131	128	135	136	154	0
2				114	141	143	138	160	153	150	138	144	155	124	132	114	—	—	—	—	—	—	[68	65	73	76	89]		0
3				90	98	114	118	144	159	160	171	188	193	193	—	—	—	—	—	—	—	≷ 90	125≶	—	—	—	—		0
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12	*																												
13																													
14				—	—	—	—	—	—	—	—	—	—	—	[133	98	40	67	63	65	81	76	74	98	81	66	74]		0
15	✓			[89	97	97	98	104	96	78	94]	122	118	99	112	123	107	93	83	68	70	71	67	53	48	53	59	87	0
16	✓			[63	75	97	118]	139	153	156	173	186	187	185	166	135	129	134	108	125	[110	95	62	52	48	60	69]	118	0
17				66	64	67	78	91	119	149	190	188	166	175	114	125	—	—	—	70	33	47	62	68	66	60	57		0
18	✓			[85	92	130]	165	154	161	195	195	189	175	139	145	123	[90	169	93	67	69	15	22	52	59	59	32]	111	0
19	✓	✓		[99	46	127]	112	120	103	82	88	90	89	95	88	86	86	86	84	91	91	[78	62	74	52	45	36]	84	0
20	✓	✓		30	19	19	32	35	40	35	53	63	78	76	86	76	70	74	69	71	64	60	41	39	41	47	52	53	0
21	✓	✓		[61	93]	112	122	137	148	149	179	188	195	187	179	160	142	137	149	128	[104	90	74	72	67	75	130]	128	0
22	✓	✓	✓	168	180	175	187	200	207	212	253	283	292	243	223	219	212	194	175	147	140	129	149	125	115	108	119	186	0
23	✓	✓		[85	50	41	47	61	80	111	187]	264	292	296	280	252	215	176	[145	49	29	38	40	59	70	60	61]	125	0
24	✓	✓		[60	72]	90	90	86	96	97	116	132	128	116	107	110	90	(100)	100	93	86	[75	69	71]	98	101	115	96	0
25	✓	✓		118	127	128	151	151	157	167	187	170	175	195	191	187	176	170	155	137	126	151	157	(152	155	179]	194	161	0
26	✓	✓	✓	212	216	219	232	233	222	216	224	207	178	176	188	182	165	139	120	107	90	95	82	104	145	176	178	171	0
27	✓	✓		176	215	234	[116	99	105	114	118]	122	130	138	136	137	[90	81	65	76	80	78	70	71	68	59	63]	110	0
28				[61	59	36	20	20	25	35	36	70	61	74	94]	108	115	118	111	100	[78	27	71]	78	88	84	90		0
29				[69	45	59	71	82	82	67	62	39	40	49	69	70	50	49	84]	114	118	115	114	106	129	172	171		0
30	✓	✓	✓	152	207	197	193	[166	106	76]	136	125	156	164	166	168	164	128	127	118	[72]	129	120	120	117	112	102	138	0
31	✓	✓	✓	104	100	98	90	95	110	127	135	163	159	117	109	111	106	(108	92)	74	79	74	75	90	97	121	126	107	0
MEANS * 15 DAYS				112	117	126	128	129	129	131	153	166	169	161	158	150	135	131	116	96	89	86	82	84	87	93	98	122	
MEANS † 12 DAYS				120	124	131	128	129	127	128	153	166	171	166	162	156	142	130	121	98	90	92	90	92	96	102	109	126	
MEANS ‡ 5 DAYS				162	174	164	174	171	160	156	182	191	193	177	175	173	166	148	136	107	100	108	114	114	120	130	132	151	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 65

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1925.

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		122	122	122	107	103	93	93	93	79	73	67	77	81	81	89	89	93	103	⌈140	169	180	182	165	167⌋	112	0
2				⌈158	151	146	142⌋	122	107	99	84	—	—	—	—	—	—	—	99	103	117	115	115	⌈136	146⌋	117	117		0
3	✓			126	126	119	124	117	99	81	(75	75)	79	84	91	91	110	119	112	115	126	126	119	133	140	138	138	111	0
4	✓	✓		110	119	142	124	122	107	99	93	91	89	(91)	95	105	112	99	99	105	122	117	107	105	⌈165	192	167⌋	116	0
5	✓	✓	✓	142	122	124	126	112	115	112	89	87	91	77	87	77	73	73	87	79	95	87	(151	146)	136	130	163	108	0
6	✓			144	149	140	107	89	75	69	75	75	69	69	69	69	75	79	84	89	93	99	122	140	142	140	124	99	0
7	✓			124	138	117	112	91	75	58	58	60	65	65	65	73	79	79	79	77	⌈ 75	55	79	99	99⌋	79	91	83	0
8	✓			84	91	93	93	69	65	65	58	55	60	69	69	73	63	67	69	79	69	67	⌈115	171	194	196	228⌋	94	0
9	✓	✓		⌈190⌋	115	69	63	53	46	36	36	51	48	51	51	53	60	84	87	95	87	⌈138	124	128	128	151	142⌋	87	0
10	✓	✓		⌈130	169	192	226	209⌋	124	107	75	69	81	75	69	79	79	89	93	103	103	84	89	84	84	84	65	107	0
11				55	⌈ 65	93	144	112	65	89⌋	65	75	99	(101)	103	95	89	84	79	84	101	⌈190	250	—	—	304	218⌋		0
12				⌈199	207	230	216	167	149	163⌋	126	99	≷N 36	N 15	N 46	N 40	N 51≶	51	55	≷ 69	Z	Z	Z	Z	Z	Z	Z ≶		2
13				≷ Z	51	60	84	158	79	Z	Z	Z	N 69≷	77	79	77	75	89	93	N 73	107	112	117	117	84	79	136		1
14				⌈112	158	163	171	247	194	315	276	128	99⌋	75	≷ Z	Z	75	79	122≷	84	⌈124	243	243	158⌋	140	144	140		1
15				138	N 26	⌈158	146	165⌋	128	—	—	—	65	58	58	60	60	69	⌈ 84	117	149	144	136	117	136	140	130⌋		1
16	✓	✓	✓	140	122	117	126	130	117	126	117	122	122	122	117	122	117	140	103	117	126	151	133	117	126	128	117	124	0
17	✓			126	103	101	115	144	119	99	93	77	77	69	75	⌈ 84	87	99	112	115	142	138	130	142	161	154	135⌋	112	0
18	✓	✓	✓	126	119	112	103	95	101	95	87	89	81	(79)	89	95	91	87	99	101	107	119	130	146	163	171	(171)	111	0
19				—	—	—	—	—	—	—	—	[69⌋	60	55	60	60	65	84	93	93	75	60	65	79	89	93	89		0
20	✓	✓	✓	89	84	84	75	65	65	63	48	55	60	67	69	73	73	99	105	103	130	99	93	117	117	122	99	86	0
21	✓	✓	✓	107	89	93	93	79	65	46	36	40	40	46	46	46	36	46	40	55	112	107	103	93	103	84	69	70	0
22	✓			60	55	40	40	40	46	51	51	60	75	79	84	79	79	89	93	93	93	103	≷ 107	99	149	190≷	130	83	0
23	✓	✓	✓	140	130	140	163	144	154	140	112	107	93	79	79	79	75	89	84	99	107	117	126	122	117	117	136	115	0
24	✓	✓		149	⌈176	190	194	186⌋	140	117	112	87	90	90	77	80	93	97	128	116	109	93	⌈155	181	193	183	172⌋	134	0
25	✓			155	161	147	133	128	103	98	95	69	61	66	80	79	97	97	108	112	91	84	⌈143	191	291	283	243⌋	130	0
26	✓	✓		⌈199	179	177	155	125	112	88⌋	79	63	69	74	77	⌈ 88	138	197	252	226	143	160	141	141	152	101⌋	70	134	0
27	✓			59	66	63	49	61	51	49	58	≷108≷	103	(109)	108	79	61	66	79	116	108	108	116	116	⌈143	160	167⌋	92	0
28	✓	✓		⌈167	183	163⌋	139	143	124	112	109	116	116	117	119	116	117	125	128	133	143	141	147	138	141	⌈177	193⌋	138	0
29	✓	✓		⌈179	163	167	155	163⌋	124	116	116	112	103	108	128	119	128	128	103	112	119	⌈139	160	163	183	175⌋	[175⌋	139	0
30				—	—	—	—	—	—	—	—	—	—	—	—	90	90	103	98	108	125	130	143	172	167	163	158		0
31																													
MEANS * 22 DAYS				130	126	123	119	112	96	87	80	79	79	80	83	84	87	97	102	106	109	112	125	134	150	151	144	108	
MEANS † 14 DAYS				142	135	135	132	124	106	96	86	83	83	82	84	87	91	103	107	110	115	121	131	133	142	141	136	113	
MEANS ‡ 6 DAYS				124	111	112	114	104	103	97	82	83	81	78	81	82	78	89	86	92	113	113	123	124	127	125	126	102	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALU

TABLE 66

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	747.7	14.2	50	21.1	5.9			ESE	15	ESE	24	ESE	20	ESE	10	Ci; ACu	0- 1		0	Much sand blown about all day
2	749.0	13.0	52	21.7	2.2			ESE	16	E	17	ESE	17	SE	5	ACu	0- 1		0	Fire in SSW in pm; smell of smoke at 21^h
3	748.8	14.5	54	21.2	6.6			SE	7	ESE	13	SSE	10	SSE	5	ACu; Cu	0- 1	Ci	1- 3	Fire in W about 12^h
4	747.9	13.9	55	18.8	3.9			SE	4	SSE	13	SE	10	SSE	5	Ci; ACu; Cu; StCu	1- 3	Ci; ACu; Cu; StCu	1- 3	
5	747.6	15.2	55	23.0	3.4			SE	7	E	10	SE	7	S	6		0		0	Fires in S and SW in pm
6	748.4	16.4	55	23.3	6.8			SE	5	E	12	ESE	10	SE	7		0		0	Dew early
7	746.7	19.0	54	26.7	8.5			SE	3	E	14	E	8	E	5	CiSt; ASt	1- 3	CiSt	1- 3	Smoky in evening
8	743.2	21.6	44	29.3	11.8			E	10	NE	7	NNE	5	SW	4	Ci; CiSt; ACu; ASt	7-10	Cu; CuNb	7-10	Smoky at night
9	739.4	26.0	40	31.5	14.8			..	0	NNE	6	WNW	12	SSW	2	ACu	2- 8	ACu	7- 8	
10	740.9	20.5	66	24.9	7.1			W	1	NNE	1	WNW	8	WSW	2	Cu; FrCu	7- 8	Cu; FrCu	1- 3	Fog early
11	742.1	19.1	73	29.7	5.4			..	0	NE	1	V	1	SW	5	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Fog early; air smoky in evening
12	738.7	22.2	56	33.4	14.6	T		SSW	3	S	1	W	10	V	2	StCu; CuNb; Nb	10	StCu; CuNb; Nb	10	Rain from early hours till 11^h; rain at night after 17^h
13	739.8	20.2	91	28.7	15.2	0.07		NW	2	NNW	3	NW	9	SW	3	ACu; ASt; Nb	10	Cu; CuNb	10- 1	Showers up to 10^h; cloudless in evening
14	743.1	16.8	97	31.4	10.2	0.02		..	0	SE	3	V	2	SSW	6	ACu; Cu; CuNb	7- 8	Cu; CuNb	4- 6	Heavy fog until 10^h; shower at 12^h; smoke smell in evening
15	740.1	22.3	67	36.6	13.3	0.03		S	3	SE	2	NNW	6	SSW	6	ACu; ASt	4- 6	ACu; ASt	4- 6	Smoke in S and W; dew and mist in early am
16	739.8	21.2	77	31.1	14.1			S	3	S	6	SSE	5	S	4	ACu; ASt	7- 8	ACu; ASt	9-10	Dew and mist early
17	740.1	23.5	52	35.3	13.7			SSW	2	SE	5	WSW	10	SW	5	ACu	7- 8	ACu	7- 8	Dew and mist early; heavy smoke in pm
18	745.7	20.3	72	26.8	15.2	T		SE	5	SE	9	ESE	14	ESE	14	ACu; CuNb; Nb	10- 7	ACu; ASt; Ci	1- 3	Few drops rain at 8^h2
19	746.2	16.7	54	27.0	10.7			E	11	ENE	13	ESE	6	SE	5	Cu	1- 3	Cu	1- 3	Fire nearby in W
20	742.1	20.8	45	28.7	12.5			ESE	2	ESE	6	SE	9	ESE	6	Ci; CiSt; ACu	7-10	Ci; CiSt; ACu	7-10	
21	742.1	21.5	45	28.4	14.4			SE	5	E	4	E	6	SE	1	ACu; ASt; Nb	9-10	ACu; ASt	9-10	
22	741.8	23.7	68	29.1	10.8			NNW	2	NW	7	W	18	WSW	6	Cu; CuNb	1- 6	Cu; CuNb	7- 8	Fog early; rain in evening
23	746.0	20.5	77	26.1	14.0	T		SSW	2	SE	5	S	6	S	6	FrCu; Cu; CuNb	5- 8	FrCu; Cu; CuNb	7-10	Clear in evening
24	747.2	16.5	65	25.4	7.4			S	4	ESE	6	E	6	SE	6		0		0	Dew and fog early; smell of smoke in evening
25	745.6	18.3	52	29.5	6.6			SE	4	ESE	4	NE	4	SSW	5		0		0	Smell of smoke in evening
26	741.6	21.6	46	30.3	9.3			S	3	NE	2	SSW	14	SW	2	ACu	0- 1	ACu; CiCu	1- 3	Much smoke all pm
27	745.6	14.9	85	18.9	4.3	0.02		WSW	3	SSE	6	S	8	S	4	StCu; Nb	10	StCu; CuNb; Nb	10	Few drops rain at 8^h; threatening all day
28	749.6	11.8	56	17.6	3.1			SSE	6	ESE	12	ESE	14	SSE	5	ACu	0- 1	CiSt	4- 6	Dew early
29	748.1	13.5	61	20.7	4.0			ESE	6	ESE	13	ESE	14	ESE	13	Cu	1- 6	Cu	4- 6	
30	747.7	14.3	71	19.6	9.3			ESE	12	ESE	17	E	19	E	9	StCu; CuNb; Nb	10	StCu; CuNb; Nb	10	Threatening all day
31																				
SUM						0.14														
MEAN	744.4	18.5	61	26.5	9.3			4.9		8.1		9.6		5.5						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 67

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		153	159	159	192	188	196	194	191	182	174	149	137	110	96	98	93	92	80	⌈ 81	66	75	71	89	98⌋	130	0
2	✓			⌈126	130	138	160⌋	179	197	210	216	207	196	167	146	119	123	125	109	108	108	93	83	⌈ 85	85⌋	108	122	139	0
3				123	127	150	146	153	169	177	202	208	191	187	167	133	123	113	⌈ 89	73	69	67	69	68	85	86	93⌋		0
4	✓	✓		131	149	155	169	167	182	185	202	187	171	172	164	119	105	121	148	122	105	116	123	129	⌈ 83	86	105⌋	142	0
5	✓	✓	✓	⌈138⌋	163	163	177	172	174	183	217	223	199	192	209	159	159	163	162	121	116	110	⌈108	116⌋	113	110	108	156	0
6				105	100	121	172	217	231	235	257	238	232	213	208	198	181	184	164	129	123	139	119	110	118	130	142		0
7				147	148	171	193	210	252	291	327	317	285	271	232	211	(184	178)	191	201	189	209	⌈ 152	157	155⌋	231	189		0
8				255	281	282	277	268	267	289	308	282	245	201	171	143	184	160	150	158	171	178	⌈ 76	46	50	56	48⌋		0
9	✓	✓		⌈ 96⌋	149	211	257	281	284	299	331	286	275	261	231	199	148	90	110	116	130	⌈ 71	97	104	100	85	85⌋	179	0
10	✓	✓		⌈102	80	72	68	104	131⌋	199	245	[illegible]	194	159	162	158	152	146	130	117	113	121	130	150	173	172	194	147	0
11	✓			209	⌈147	89	84	137	184	147⌋	225	203	150	138	137	146	155	153	155	160	150	⌈ 61	34	27	41	68	94⌋	129	0
12	✓			98	102	100	104	134	149	110	146	208	257	292	295	266	233	209	221	182≷	133	94	106	84	157	154	149≷	166	2
13	✓			≷155≷	250	238	197	149	154≷	96	137≷	191	167	160	162	164	166	163	143	138	105	105	116	123	149	⌈ 188	108⌋	155	1
14				⌈100	73	83	109	109	112	102	102	130	148⌋	213	≷ 174	138≷	—	—	—	—	—	⌈ 31⌋	—	—	152	149	152		1
15	✓			148	137	144	157	138	147	135	155	188	255	(268	255)	245	219	221	⌈162	123	96	97	123⌋	137	127	119	130	164	1
16	✓	✓	✓	147	154	152	131	138	144	125	129	125	134	148	159	137	159	130	150	121	112	85	106	138	149	167	174	138	0
17				169	179	174	159	144	152	143	182	235	253	262	249	223	207	⌈119	71	68	112	112⌋	108	122	122	137	134		0
18	✓	✓	✓	144	147	150	154	152	139	131	134	127	139	155	154	134	137	138	108	105	102	97	93	94	98	97	112	127	0
19				148	149	154	162	178	185	199	211	221	256	258	261	247	(233	208	184)	199	213	219	229	234	241	234	233		0
20	✓	✓	✓	229	234	257	278	297	307	318	342	350	342	283	267	238	247	146	134	133	118	153	220	176	171	171	171	233	0
21	✓	✓	✓	176	202	207	211	235	268	308	350	368	360	329	305	294	284	234	233	215	118	121	157	173	181	204	220	240	0
22				244	294	348	380	379	339	316	294	259	221	183	171	159	149	162	169	182	187	197	208	208	181	181	192		0
23	✓	✓	✓	209	181	172	146	138	140	122	137	160	172	(181)	189	184	174	179	181	167	133	137	121	125	154	135	130	157	0
24	✓	✓		110	98	102	94	93	110	130	150	191	216	198	234	217	198	194	123	102	162	184	⌈121	106	129⌋	142	147	148	0
25				142	138	152	159	168	188	199	231	298	329	(303	266)	233	220	214	211	148	168	204	⌈189	119	81	94	112		0
26	✓	✓		⌈125	138⌋	149	159	187	197	235	272	326	320	296	272	⌈243	134	92	45	85	134⌋	137	147	147	159	211	240	185	0
27				246	250	—	—	—	—	—	—	—	183	168	172	163	162	155	155	135	154	155	167	172	159	148	139		0
28	✓	✓		146	130	137	163	172	187	192	198	184	173	169	154	131	126	(126	122)	126	113	106	94	105	121	110	112	142	0
29	✓	✓		133	138	147	171	174	173	192	184	192	185	163	144	133	134	127	125	112	127	105	84	105	110	123	134	142	0
30	✓			144	152	133	166	162	155	166	174	173	162	166	169	137	144	147	142	148	146	135	125	100	122	137	140	148	0
31																													
MEANS * 20 DAYS				146	152	154	162	170	181	184	207	216	212	202	197	177	165	150	140	130	120	110	113	115	125	134	139	158	
MEANS † 14 DAYS				146	152	160	169	178	188	201	220	225	218	204	199	175	161	142	133	124	119	116	119	124	129	136	145	162	
MEANS ‡ 6 DAYS				174	180	184	183	189	195	198	218	226	224	215	214	191	193	165	161	144	116	117	134	137	144	147	152	176	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 68

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		125	134	131	162	163	170	167	166	159	145	135	122	98	88	94	83	73	65	[65	49	56	56	74	81]	111	0
2	✓			[100	107	115	130]	143	159	176	185	184	173	150	128	110	115	115	100	92	89	73	57	[53	54]	74	79	115	0
3				93	101	109	107	110	129	150	175	183	164	162	147	122	—	—	—	—	[57	62	61	56	78	75	80]		0
4	✓	✓		114	108	115	133	124	142	152	188	196	169	167	168	119	104	117	142	116	96	103	89	105	[99	105	107]	128	0
5	✓	✓	✓	[108]	119	134	142	132	142	156	196	210	194	196	206	165	158	161	152	115	97	84	[92	89]	88	88	74	137	0
6				82	78	90	133	183	177	174	196	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
7																													
8				219	233	237	232	221	215	218	256	—	—	—	—	110	183	156	148	150	151	150	[59	40	39	37	31]		0
9	✓	✓		[54]	130	187	240	269	272	291	308	284	300	298	259	220	157	91	100	107	122	[59	74	68	64	58	78]	170	0
10	✓	✓		[85	60	46	47	60	111]	191	235	240	180	158	163	162	155	142	120	102	97	98	87	107	134	142	167	129	0
11	✓			191	[159	74	56	116	170	130]	209	177	125	122	123	135	139	142	141	140	118	[45	27	18	24	36	64]	112	0
12	✓			63	65	70	73	108	119	92	122	184	251	302	299	283	253	210	215	177	≷136	78	150	133	119	100	167≶	157	2
13	✓			≷135≶	158	150	177	122	129	≷53	149≶	190	161	152	161	164	167	159	135	131	96	86	91	91	109	[142	86]	133	1
14				[74	56	69	87	83	97	92	98	121	128]	201	201	211	187	—	—	178	[84	30]	—	—	122	117	118		1
15	✓			115	136	108	105	101	98	98	117	162	226	265	262	262	233	231	[167	108	75	78	91]	103	97	97	107	143	1
16	✓	✓	✓	115	122	99	89	87	102	92	98	101	107	121	140	121	138	109	126	97	89	71	92	110	117	122	127	108	0
17				133	133	140	131	—	—	—	—	—	220	232	215	201	191	[106	70	71	100	101]	98	107	104	115	122		0
18	✓	✓	✓	108	103	115	115	115	110	107	115	115	136	152	148	132	133	133	100	92	93	88	77	80	85	79	97	110	0
19				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	157	185	204	194	195	192	190	193	206		0
20	✓	✓	✓	199	209	225	248	288	293	301	333	353	348	268	247	233	234	122	116	108	100	137	196	151	128	131	133	213	0
21	✓	✓	✓	152	169	172	172	198	242	307	352	379	387	362	332	315	279	251	(224)	195	100	112	142	148	163	185	207	231	0
22				253	283	342	—	—	356	317	277	265	215	161	148	142	133	141	145	152	149	155	160	166	126	111	124		0
23	✓	✓	✓	133	122	107	82	83	83	78	98	125	143	164	162	160	150	153	156	140	115	110	91	97	124	109	95	120	0
24	✓	✓		80	80	71	71	57	100	107	154	186	207	186	219	201	184	170	99	89	121	124	[79	66	82]	96	99	122	0
25				101	107	129	142	161	—	—	—	267	282	273	241	211	186	184	174	107	107	148	[124	84	47	38	54]		0
26	✓	✓		[76	88]	100	108	138	152	201	233	269	288	285	269	[218	115	73	34	61	104]	93	72	73	85	124	151	142	0
27				181	184	192	184	194	296	306	329	196	153	140	148	148	148	142	133	110	115	125	115	124	107	79	80		0
28	✓	✓		90	82	98	119	125	121	141	157	168	158	150	138	116	(111	109	105	107)	95	78	63	77	86	79	79	110	0
29	✓	✓		106	111	117	120	111	141	134	155	191	192	167	141	128	130	124	117	108	117	94	76	89	87	105	117	124	0
30	✓			113	105	107	127	121	130	154	167	175	161	168	173	142	145	145	143	147	141	127	118	93	115	129	133	137	0
31																													
MEANS 20 DAYS	*			113	118	117	126	133	149	156	187	202	203	198	193	174	159	143	129	115	103	90	91	90	96	104	112	138	
MEANS 14 DAYS		†		110	117	123	132	139	156	173	199	212	211	201	194	171	153	132	120	108	101	94	91	94	100	107	115	140	
MEANS 6 DAYS			‡	136	141	142	141	150	162	174	199	214	219	210	206	188	182	155	146	124	99	100	115	112	118	119	122	153	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 69

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				162	164	159	137	115	106	92	92	89	Z	Z	Z	70	78	72	78	78	86	104	110	115	115	103	94		1
2	✓			89	94	104	110	103	101	84	68	63	63	(61)	75	73	73	78	78	78	82	73	94	82	78	78	73	81	0
3	✓	✓	✓	78	78	66	70	66	61	53	66	57	66	70	57	57	61	73	78	70	73	78	106	110	94	90	73	73	0
4				70	78	94	106	110	70	66	66	66	70	72	63	Z	75	82	82	89	86	106	Z	N 61	84	84	66		1
5				N 48	78	82	82	84	68	59	66	73	73	72	70	[70]	—	—	106	110	103	106	94	70	78	66	86		1
6				86	110	138	127	94	N 44	53	98	166	101	Z	80	N 70	86	73	86	84	59	82	84	82	80	70	66		1
7				68	78	80	89	92	86	98	90	90	86	94	90	N 61	73	Z	94	78	78	73	73	73	73	70	66		1
8	✓	✓		44	44	39	39	35	35	33	35	55	80	82	80	72	89	94	94	103	96	94	101	101	128	176	196	81	0
9	✓	✓		174	161	128	106	113	89	84	90	75	80	84	103	98	104	104	101	106	106	84	82	89	101	110	103	103	0
10	✓	✓	✓	104	110	110	115	106	106	82	82	73	70	78	78	94	98	98	98	98	70	61	61	70	86	75	80	88	0
11	✓			72	72	63	59	57	57	48	44	44	53	61	70	78	73	66	78	78	57	53	48	66	66	50	48	61	0
12	✓			59	66	61	61	61	39	44	48	57	66	(78)	78	78	66	57	53	115	118	70	70	86	78	73	86	70	0
13				103	106	98	86	66	61	48	48	94	82	73	70	78	Z	90	86	82	86	82	73	61	48	66	66		1
14	✓	✓	✓	66	61	57	61	61	44	35	39	48	73	66	78	70	78	78	78	78	61	57	66	61	82	94	103	66	1
15				98	106	138	147	222	171	138	115	70	73	82	78	82	86	—	—	—	70	66	70	90	90	78	78		0
16				73	57	57	48	53	44	44	48	66	70	72	86	82	N 37	57	N 50	82	70	Z	57	66	103	123	82		1
17	✓	✓		70	73	82	66	48	39	27	31	174	86	90	78	73	82	94	86	90	86	90	73	61	53	57	57	74	0
18	✓	✓		61	61	53	53	61	86	94	86	101	57	75	75	80	84	89	89	80	82	94	98	98	86	115	159	84	0
19	✓			154	147	118	106	98	78	73	57	57	57	57	53	53	53	57	53	48	44	39	35	57	61	53	44	69	0
20				57	Z	Z	Z	Z	Z	N 44	N 86	166	106	Z	N 48	Z	N 73	Z	Z	Z	106	94	94	115	135	118	Z		2
21				Z	138	Z	Z	Z	Z	135	118	104	92	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
22				—	—	—	—	—	—	—	—	—	—	—	—	90	90	94	86	78	78	70	70	66	70	89	53		0
23	✓	✓		50	70	53	39	39	35	27	31	44	53	61	70	82	86	86	78	86	57	48	44	48	53	61	57	57	0
24	✓	✓	✓	55	63	59	63	59	53	53	48	55	63	66	68	75	80	80	82	82	73	82	84	86	63	70	59	68	0
25	✓			68	66	96	149	132	144	164	96	115	94	53	57	53	48	70	66	66	57	66	61	48	N 53	N 44	98	82	1
26				61	61	61	73	61	57	110	Z	Z	210	103	61	66	66	90	110	78	78	63	70	Z	N 25	70	82		1
27				92	92	Z	96	98	90	86	82	154	Z	Z	Z	Z	Z	90	90	159	94	118	N 66	82	94	110	106		1
28	✓	✓		98	78	N 86	90	94	78	61	86	101	92	78	72	80	75	75	75	72	68	80	80	72	82	72	70	80	1
29	✓			70	63	59	59	55	48	53	44	48	61	70	78	82	61	53	73	70	70	66	57	61	48	39	48	60	0
30	✓	✓	✓	48	44	44	39	39	35	35	39	55	70	(80)	80	82	80	82	75	86	82	57	57	53	48	61	66	60	0
31	✓	✓	✓	75	53	55	57	78	70	72	72	82	82	78	82	84	94	101	94	75	59	57	61	75	86	73	66	74	0
MEANS * 18 DAYS				80	78	74	75	72	67	62	59	72	70	72	74	76	77	80	79	82	74	69	71	74	75	77	83	74	
MEANS † 12 DAYS				77	75	69	66	67	61	55	59	77	73	76	77	79	84	88	86	86	76	74	76	77	80	88	91	76	
MEANS ‡ 6 DAYS				71	68	65	68	68	62	55	58	62	71	73	74	77	82	85	84	82	70	65	72	76	76	77	74	71	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 70

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	747.6	17.0	56	22.4	10.9			E	12	E	20	ENE	18	ENE	13	Cu; StCu	7- 8	Cu; StCu	7- 8	
2	744.5	16.7	63	23.8	9.4			E	6	E	11	ENE	11	ENE	7	Ci; CiSt; ACu; ASt	7-10	Ci; ACu; CuNb	7-10	
3	741.1	18.5	63	26.6	9.2			ESE	4	ENE	7	E	7	SE	5	ACu; ASt	4- 8	ACu; ASt	7- 8	Dew early
4	740.6	19.8	61	28.1	11.6			SE	5	E	10	NE	6	V	2	ACu; ASt	2- 8	ACu; ASt; CuNb	7-10	Rain in evening
5	737.0	21.2	58	27.3	14.0	0.02		NE	3	NNE	10	WNW	13	NW	1	Cu; FrCu	1- 6	Cu; FrCu	4- 6	
6	737.2	17.2	93	19.8	13.0	0.06		W	2	NNW	3	W	15	NW	4	CiCu; ACu; FrCu; Nb	7-10	FrCu; Cu; CuNb	7-10	Occasional light showers in am
7	739.3	16.7	77	19.1	7.0	T		NW	5	W	8	WSW	11	SW	2	Nb; CuNb	7-10	Nb; CuNb	7-10	Occasional driving showers
8	744.6	13.8	83	19.8	3.7	0.08		V	1	N	1	S	7	S	6	ACu; Cu; CuNb	1- 6	ACu; Cu; CuNb	7- 8	Dew and frost early
9	747.9	12.6	82	17.2	2.5			S	2	ENE	4	E	7	E	5		0		0	Dew early
10	744.9	11.1	80	18.8	1.9			SSE	3	E	4	ESE	4	SE	3	CiSt; CiCu	0- 1		0	Dew early
11	741.3	12.8	56	21.5	0.5			..	0	N	1	ENE	2	SSW	4		0	CiSt	1- 8	Dew early
12	737.6	14.5	51	22.2	0.4			SSW	1	NW	3	W	14	WNW	3	ACu; Cu; CuNb	1- 8	Cu; CuNb	10	Good shower in pm; drizzling in early evening
13	740.7	14.5	71	16.9	5.5	0.07		SW	3	SW	4	SSW	8	SW	3	ACu; Cu; CuNb	4- 8	ACu; Cu; CuNb	7-10	Dew and heavy fog early; showers in am and pm; clear in eve.
14	742.5	13.0	90	20.6	1.6	0.06		W	4	NW	2	SSE	3	S	4	ACu; Cu; CuNb	10- 1	ACu; Cu	1- 3	Frost early; drizzling at 8h
15	743.2	12.4	85	21.2	2.8			S	2	ESE	1	E	3	E	2		0		0	Dew and heavy fog early
16	737.0	15.8	47	25.4	3.6			NNE	1	N	6	W	8	WSW	3	ACu; Cu; CuNb	1- 8	CuNb; Nb	9-10	Dew early; light rain all pm and evening
17	739.5	15.9	90	20.4	9.7	0.11		W	2	WNW	2	WSW	6	SSW	2	ACu; Cu; Nb	7-10	ACu; Cu; Nb	7-10	Drizzling rain at intervals
18	744.0	14.0	87	23.1	3.9	0.02		V	1	NNE	1	V	1	S	5	ACu; StCu	7-10	ACu; StCu	7-10	Heavy fog until after 8h
19	742.0	15.8	61	21.7	9.0			SE	3	SSE	2	NNE	1	..	0	Cu; StCu; CuNb; Nb	10	Cu; StCu; CuNb; Nb	10	Dew early; overcast all evening; rain at 22h5
20	733.3	16.2	95	18.8	12.8	0.56		N	2	N	9	NW	17	NW	12	ACu; StCu; CuNb	10	ACu; StCu; CuNb	10	Drizzle from 0h to 7h; showers at intervals all day
21	737.4	16.4	79	16.6	11.8	0.32		W	22	SW	16	WSW	15	W	1	CuNb; Nb	10	CuNb; Nb	10	Occasional brief showers
22	742.4	14.0	89	19.2	8.0	0.02		WNW	1	N	1	W	10	W	1	ACu; Cu; CuNb	7-10	ACu; Cu; CuNb	7-10	Dew early; shower began 9h8; clearing in evening
23	745.9	13.5	86	22.3	4.7	0.04		..	0	..	0	ENE	3	..	0	Cu; StCu	1- 6	Cu; StCu	4- 6	Heavy dew early; clear in evening
24	745.6	13.8	74	24.7	4.4	0.01		..	0	N	2	NNE	11	WNW	3	CiSt	0- 1		0	Heavy dew early
25	743.7	15.8	100	21.3	9.2	T		N	1	N	2	NNW	5	NW	4	Nb	7-10	Nb	7-10	Heavy fog until 9h; rain at intervals during day
26	740.7	16.8	97	21.2	13.3	0.23		NNW	1	NNW	4	NNW	16	WSW	6	Nb	10	CuNb; Nb	7- 8	Frequent showers in am and evening
27	740.8	13.8	74	16.6	9.4	0.18		WNW	4	WSW	5	W	16	W	5	ASt; CuNb; Nb	7-10	ASt; CuNb; Nb	7-10	Frequent showers
28	745.2	13.0	87	16.9	5.5	0.16		W	2	SW	5	SW	11	S	1	Nb; CuNb	7-10	Nb; CuNb	7-10	Showers at intervals; clearing in evening
29	748.0	10.4	81	16.3	1.8	0.01		..	0	..	0	SW	5	WSW	2	ACu; CuNb; Nb	2-10	CuNb; Nb	7-10	Clearing at night
30	746.9	12.6	90	10.9	2.1			..	0	..	0	SSW	10	SW	2	ACu; CuNb	1-10	CuNb	7-10	Fog early
31	747.4	10.6	82	16.1	3.6			..	0	..	0	ESE	2	SE	4	Ci; ACu	0- 1	Ci; Cu	1- 3	Heavy dew; fog
SUM						1.89														
MEAN	742.3	14.8	76	20.5	6.7				3.0		4.6		8.6		3.7					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 71

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	—	—	221	209	199	206	221	201	199	193	158	153	161	182	226	251		1
2				261	248	216	228	253	269	274	288	304	282	248	239	228	220	226	232	226	222	227	179	232	264	284	285		0
3	✓	✓	✓	274	265	307	305	295	307	298	288	301	297	299	300	275	260	250	245	238	215	217	167	173	200	225	265	261	0
4	✓			292	300	299	284	294	301	310	315	319	304	279	267	259	256	245	236	231	219	227	168	279	244	259	315	271	1
5	✓			313	314	284	273	279	286	286	285	265	238	245	225	231	(222	190)	187	186	179	175	182	206	210	221	211	237	1
6	✓			195	179	149	162	185	182	205	176	201	200	175	170	161	148	148	153	148	154	162	186	199	208	236	251	181	1
7	✓			256	234	216	197	194	201	186	185	189	189	184	176	175	173	184	175	182	187	195	201	211	227	226	231	199	1
8	✓	✓		261	243	360	391	428	439	465	489	405	280	225	199	197	186	172	175	175	180	197	190	176	176	130	128	261	0
9	✓	✓		150	162	179	200	201	221	216	222	277	271	255	201	201	199	197	211	191	177	184	184	180	176	186	223	203	0
10	✓	✓	✓	219	215	215	214	236	248	262	280	336	367	302	279	260	223	221	223	216	233	234	248	212	239	262	261	250	0
11				284	298	295	287	275	320	357	379	438	405	320	242	231	223	214	187	206	212	198	228	256	249	268	293		0
12				251	225	237	273	226	348	338	329	321	265	200	199	190	—	—	159	173	176	182	180	184	201	201	198		0
13	✓			187	176	194	211	244	223	273	322	249	210	206	191	185	167	172	177	186	189	195	208	237	264	251	261	216	1
14	✓	✓	✓	245	248	260	268	282	299	363	389	{278}	260	223	216	215	219	221	214	215	227	227	223	233	157	163	161	242	1
15	✓			150	145	[102	97	80	127	150	173]	236	261	247	220	211	221	223	236	234	(233)	232	227	197	244	272	271	200	0
16	✓			288	341	362	397	389	404	415	415	355	328	297	242	251	243	164	210	223	243	234	212	221	203	171	186	283	1
17	✓	✓		206	197	191	201	197	234	253	261	221	226	187	189	179	182	182	177	173	172	179	199	220	244	248	264	208	0
18	✓	✓		268	269	307	355	306	[211	203	236	250]	331	265	215	223	222	223	214	230	204	189	175	187	200	[167	120]	232	0
19				[122	141	179]	195	225	267	306	368	391	396	396	379	391	366	335	332	[318	258	331	425	306	271]	345	301		0
20				271	{176	114	203	237	259	307}	288	267	260	—	—	172	(172	166)	{127}	136	162	162	168	166	159	164	135		2
21	✓			{149	157	162	139	187}	171	161	159	154	158	166	164	173	173	181	182	186	187	209	211	228	285	294	284	188	1
22	✓			275	267	275	259	272	249	321	357	389	294	217	201	200	198	189	186	199	214	214	226	253	260	{223	264}	250	0
23	✓	✓		{310	231	298}	383	417	446	508	536	506	428	310	260	236	228	212	203	201	234	209	271	294	299	301	311	318	0
24	✓	✓	✓	325	319	320	307	333	341	322	357	407	356	295	273	234	209	221	226	227	220	222	215	225	269	280	284	283	0
25				290	{284	203	221	221	201	237	284	254	227	266	312}	280	269	245	222	201	200	204	236	190	199	199	211		1
26	✓			234	273	267	262	280	273	274	236	191	197	190	171	173	(170	153	154	155)	157	{173	185	163	154}	176	180	202	1
27				180	189	{159	171	173	175	193}	215	208	181	{163	172	153}	175	171	168	173	173	177	173	173	171	172	193		1
28	✓	✓		208	227	187	209	215	240	242	176	185	187	195	184	173	179	177	187	194	193	199	204	222	228	248	260	205	1
29				251	262	284	307	332	386	366	404	428	307	268	238	203	191	194	189	189	200	212	236	238	294	310	298		0
30	✓	✓	✓	321	366	372	419	456	517	535	554	374	292	237	225	203	187	185	199	200	212	233	256	258	256	244	243	306	0
31	✓	✓	✓	234	274	264	272	210	234	255	267	274	284	281	249	236	200	184	186	239	236	255	269	226	226	272	317	248	0
MEANS * 22 DAYS				244	246	253	264	272	280	296	304	289	271	240	219	211	203	195	198	201	203	207	209	218	226	230	240	238	
MEANS † 12 DAYS				252	251	272	294	298	311	327	338	318	298	256	232	219	208	204	205	208	209	212	217	217	222	227	236	251	
MEANS ‡ 6 DAYS				270	281	290	298	302	324	339	356	328	309	273	257	237	216	214	216	222	224	231	230	221	224	241	255	265	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 72

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				134	136	146	161	172	178	192	194	205	205	205	193	179	193	201	180	179	171	136	133	137	153	192	—		1
2				—	—	—	—	—	—	—	—	289	256	228	223	214	202	201	199	192	182	191	159	200	224	236	227		0
3	✓	✓	✓	220	217	244	260	257	259	280	252	295	275	280	284	271	251	231	227	217	184	172	123	124	146	171	213	227	0
4	✓			228	247	217	230	228	269	275	291	305	291	259	247	259	226	207	201	193	178	161	201	244	195	202	263	234	1
5	✓			291	250	224	223	208	225	260	252	238	226	238	220	225	215	184	169	162	146	137	142	161	170	185	170	205	1
6	✓			161	143	114	117	137	159	180	141	148	174	149	150	153	126	134	134	134	134	131	134	149	163	190	198	148	1
7	✓			198	188	176	159	150	159	146	148	156	157	167	157	157	159	161	147	154	133	134	137	147	169	165	191	159	1
8	✓	✓		203	180	303	318	364	395	411	405	333	250	214	179	171	167	149	153	146	139	126	136	142	118	92	83	216	0
9	✓	✓		94	106	130	159	145	178	177	177	251	252	234	180	184	178	180	188	168	152	143	141	140	133	135	157	166	0
10	✓	✓	✓	176	174	168	170	185	201	236	238	302	337	291	264	233	198	193	199	188	192	187	194	171	203	237	238	216	0
11				225	274	—	—	—	—	—	—	—	396	328	248	218	224	208	168	180	170	194	219	230	234	276	264		0
12				260	227	239	263	223	345	351	347	341	282	204	193	187	—	—	—	143	143	148	153	146	158	170	161		0
13	✓			143	134	127	139	185	205	253	271	199	173	187	180	164	153	146	139	142	134	132	149	182	228	204	215	174	1
14	✓	✓	✓	193	208	217	224	226	269	318	345	264	244	211	191	195	191	184	182	180	170	180	177	195	130	125	143	207	1
15	✓			125	122	83	84	68	78	111	134	213	232	216	188	184	181	181	193	203	198	192	190	170	184	217	228	166	0
16	✓			244	282	306	347	368	402	401	400	335	313	292	236	249	248	219	192	192	203	216	190	195	168	123	118	260	1
17	✓	✓		148	135	123	146	159	185	195	213	153	186	159	167	157	157	148	146	130	123	123	145	171	186	203	207	161	0
18	✓	✓		236	230	249	335	269	171	159	195	208	300	230	182	171	185	187	184	167	155	147	143	145	145	116	81	191	0
19				84	90	118	153	170	228	259	280	324	332	358	357	370	352	312	261	263	227	293	349	286	225	—	—		0
20				—	—	—	—	—	—	—	—	214	—	—	163	152	143	147	127	119	128	134	137	137	132	135	128		2
21	✓			134	132	98	134	123	133	128	128	130	126	136	139	146	156	157	152	143	125	134	146	161	190	227	211	145	1
22	✓			216	214	217	200	211	204	230	267	271	257	192	169	177	169	162	154	154	136	156	171	201	222	173	171	196	0
23	✓	✓		236	192	260	347	377	448	515	536	469	408	272	218	190	181	178	162	140	156	155	203	240	260	249	252	277	0
24	✓	✓	✓	260	266	256	281	302	283	293	328	361	326	284	258	216	190	205	207	196	180	172	173	173	226	211	260	246	0
25				261	—	—	173	191	171	200	249	225	217	249	270	252	238	207	174	159	163	156	176	159	149	157	145		1
26	✓			177	203	215	199	226	223	201	215	208	145	159	149	157	157	155	146	137	132	135	145	153	146	128	128	168	1
27				123	119	—	—	—	—	—	—	—	139	118	103	131	86	143	145	123	126	116	132	123	127	118	122		1
28	✓	✓		123	156	113	140	134	159	184	141	133	145	154	155	148	147	146	149	146	145	131	132	157	164	191	196	150	1
29				195	163	218	253	245	—	—	—	—	—	215	201	172	170	165	155	157	155	146	176	171	233	273	261		0
30	✓	✓	✓	281	278	322	336	389	459	463	476	336	251	213	204	191	169	161	163	154	141	181	191	205	218	196	187	257	0
31	✓	✓	✓	169	225	206	201	172	188	210	181	204	233	252	232	215	170	157	159	204	199	194	214	171	170	213	263	200	0
MEANS * 22 DAYS				193	195	199	216	222	239	256	261	251	241	218	198	192	181	174	170	166	157	156	163	173	179	180	190	199	
MEANS † 12 DAYS				195	197	216	243	248	266	287	291	276	267	233	210	195	182	177	177	170	161	159	164	170	175	178	190	209	
MEANS ‡ 6 DAYS				216	228	236	245	255	276	300	303	294	278	255	239	220	195	188	190	190	178	181	179	173	182	192	217	226	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 73

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	63	71	63	71	69	69	65	61	59	48	48	59	73	75	(71	67	63)	59	48	59	63	65	83	94	65	0
2	✓	✓	✓	85	85	81	85	79	63	57	63	59	59	61	73	78	79	81	75	65	61	57	65	61	63	59	59	69	0
3	✓	✓	✓	59	57	55	57	53	39	36	39	57	61	94	94	97	94	85	97	97	90	81	67	71	71	73	57	70	0
4				57	44	50	57	71	—	—	—	—	123	110	97	102	102	97	106	110	102	97	78	81	79	88	83		0
5	✓	✓	✓	79	78	79	67	61	65	50	63	79	71	78	92	83	94	95	90	95	67	71	67	71	73	69	67	75	0
6	✓	✓	✓	61	63	63	69	65	61	59	63	79	90	[92]	83	88	85	78	71	65	53	59	63	78	63	57	55	69	0
7	✓	✓	✓	46	63	78	83	88	79	61	75	78	59	61	59	67	75	75	78	50	42	55	65	61	67	63	67	66	0
8	✓	✓	✓	65	67	67	78	71	81	69	61	55	46	46	48	53	59	59	61	55	44	46	50	48	48	59	69	59	0
9	✓	✓	✓	69	61	65	71	67	59	46	44	53	46	44	48	59	63	75	69	57	46	63	75	61	69	69	85	61	0
10	✓	✓	✓	94	90	81	73	69	61	53	48	53	(57)	61	57	75	78	73	78	59	36	39	44	50	57	59	57	63	0
11	✓	✓	✓	53	61	50	50	50	44	46	39	50	53	61	65	65	75	78	71	65	48	57	50	39	42	46	44	54	0
12	✓	✓	✓	50	50	55	55	50	48	44	46	57	63	71	75	69	81	78	81	81	79	67	55	61	65	50	59	62	0
13				57	⌈57	79	128	252	335	275	244	≷Z	130	Z	126	104	Z	Z	108	102	83	88	88	73≶	71	81	78		1
14	✓	✓	✓	123	142	125	125	112	102	137	100	110	92	92	92	97	94	94	94	100	79	78	78	81	90	85	79	100	0
15	✓	✓	✓	83	85	69	69	78	78	73	65	61	57	61	65	73	78	81	78	78	48	44	48	39	39	48	44	64	0
16	✓	✓	✓	48	48	53	53	57	48	44	39	48	50	61	69	79	81	85	92	85	71	61	81	[57]	48	44	65	61	0
17				69	65	65	81	78	81	78	65	69	≷73	69	Z	69	Z	Z	114	Z	118	Z	Z	81	81	73	61≶		1
18			≷	Z	Z	Z	97	186	118	Z	Z	Z	Z	44	128	104	79	88	88	N 81	N 63	94	85	63	65	85	188≶		2
19			≷	112	Z	61	53	59	57	79	Z	73	94	102	116	114	97	97	95	90	79	67	71	67	78	55	39≶		1
20			≷	44	N 21	46	37	Z	N 44	59	N 59	71	85	(36)	65	106	Z	44	94≶	90	90	73	53	61	61	57	53		1
21	✓	✓		44	44	44	48	57	39	36	48	65	81	81	78	≷N 32	94	N 39	97≶	97	85	81	73	81	73	78	78	66	1
22	✓	✓	✓	65	57	57	73	44	48	44	⌈69	102]	90	85	97	97	114	123	126	114	106	106	102	73	73	65	65	83	0
23	✓	✓	✓	65	69	78	57	65	81	65	61	81	94	94	97	104	108	106	94	106	97	102	97	88	78	65	75	84	0
24	✓	✓	✓	57	81	83	92	106	106	81	78	78	85	94	81	85	81	79	83	81	83	81	92	92	81	61	55	82	0
25	✓	✓	✓	46	48	50	53	53	44	42	53	61	57	67	75	83	81	81	83	69	61	63	94	78	61	55	42	62	0
26	✓	✓		44	46	42	≷N 2	53	N 4	57	44	61	55	53	61	59	42	19	25	50	36	39	36	53	75	102	94≶	48	1
27				97	94	67	95	73	90	106	≷N110	Z	Z	Z	130	92	Z	Z	N 59	123	Z	N 65	81	94≶	102	94	90		2
28				85	94	90	69	81	85	81	78	69	61	69	61	65	≷Z	Z	Z	Z	Z	Z	Z	174	85	79	Z≶		2
29			≷	83	Z	Z	102	106	128	Z	Z	Z	Z	Z	97	102	Z	Z	Z	Z	N 79≶	97	110	110	114	97	90		2
30	✓	✓	≷	N 73	112	108	110	125	95	97	88	126	110	116	97	N100	108	97	104	104	95≶	71	75	75	78	69	71	96	1
31																													
MEANS * 21 DAYS				65	70	69	69	70	63	60	59	70	68	72	75	77	83	79	82	78	66	65	68	66	66	65	66	70	
MEANS † 21 DAYS				65	70	69	69	70	63	60	59	70	68	72	75	77	83	79	82	78	66	65	68	66	66	65	66	70	
MEANS ‡ 18 DAYS				67	71	70	71	69	65	60	59	68	65	71	74	79	83	83	83	77	65	65	70	65	64	62	63	70	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 74

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	747.9	8.8	86	17.9	2.4			..	0	SE	1	NNE	3	..	0	ACu; ASt; Cu; CuNb	7-10	ACu; ASt; Cu	7-10	Dew early; smoke coming from office at 10h
2	747.3	12.8	69	21.3	3.6			S	3	ENE	1	NE	3	SW	4	Ci; CiSt; ACu	1- 3	Ci; CiSt; ACu	1- 3	Dew early; clear at night
3	746.1	11.6	75	19.8	-0.1			..	0	..	0	W	8	WNW	2	Cu	1- 6	Cu	4- 6	Dew and fog early; clear at night
4	747.0	13.8	80	18.1	5.7	0.03		NNW	1	SSW	4	SSW	10	S	3	Cu; St	3- 8	Cu; CuNb	7- 8	Dew early, and in evening; practically clear at night
5	749.4	10.8	77	16.1	4.2			SSW	2	ENE	2	S	2	S	1	CuNb	7- 9	CuNb; Cu	7- 1	Dew early; clear at night
6	748.9	11.4	63	21.0	-0.5			..	0	..	0	V	1	SSE	3	Cu	0- 1		0	Dew early
7	748.2	11.7	65	23.8	2.0			S	1	SSE	1	N	1	SSW	5	Ci; CiSt	10- 7	Ci; CiSt	6- 0	Dew early
8	748.0	11.5	65	25.7	2.6			S	3	SSE	2	N	..	SSW	..	Ci; CiSt	7-10	Ci; CiSt	7-10	Dew early
9	746.5	13.8	46	25.8	3.0			SSE	..	NE	..	NNW	3	SE	1	Ci; CiSt; CiCu	7-10	Ci; CiSt; CiCu	7-10	Dew early
10	747.4	14.7	40	24.9	3.3			..	0	N	1	NE	4	SE	2		0		0	Dew early
11	747.3	13.7	38	24.6	2.0			V	1	NE	2	NE	6	NE	1		0		0	Dew early
12	743.9	14.1	37	25.3	2.5			N	3	N	4	NNW	12	W	4	Ci; CiSt; CiCu	7-10	Ci; CiSt; CiCu	7-10	Lightning 18h-20h
13	742.6	16.0	96	16.9	9.8	0.03		N	1	NNW	7	NW	9	..	0	CiCu; ACu; CuNb	10	CiCu; ACu; CuNb	10	Heavy fog early; rain at intervals during day
14	746.4	12.4	85	18.7	7.0	0.15		S	2	ESE	3	ESE	1	SE	2	Ci; ACu; ASt; Cu	2- 8	Ci; Cu; ACu; ASt	7- 8	Heavy dew early; clear at night
15	745.5	12.7	81	21.9	2.5			SE	2	SE	1	NNE	4	..	0	Ci; ACu; Cu	1- 3	Ci; ACu; Cu	4-10	Dew and fog early; smoke from office at 8h; overcast in eve.
16	743.3	14.4	61	27.2	5.9			..	0	N	2	N	12	NNW	1	CiSt; ACu; ASt	10	CiSt; ACu; ASt	10	Dew early
17	742.5	18.5	33	20.8	10.5			N	3	NNE	6	N	6	..	0	Cu; StCu; CuNb	10	Cu; StCu; CuNb	10	Frequent showers in day and evening
18	742.4	13.6	95	17.1	12.2	0.65		N	2	..	0	..	0	..	0	Nb	10	CuNb; Nb	7-10	Frequent showers in am and early pm, and late at night
19	738.3	13.3	97	16.1	10.3	0.17		..	0	..	0	..	0	..	0	Nb	10	Nb	10	Rain in early hours and all am, and after 22h
20	736.4	12.3	95	11.8	10.2	0.22		..	0	NNW	6	WNW	7	NNW	2	Cu; CuNb; Nb	10	Cu; CuNb; Nb	7-10	Rain from 0h until mid-afternoon; overcast in evening
21	742.7	11.1	91	16.6	4.6	0.09		W	1	N	2	WNW	7	N	1	ACu; Cu; CuNb	2- 8	Cu; CuNb	7-10	Dew early; one shower in am, one in pm
22	743.6	12.0	95	17.1	6.4	0.07		..	0	N	1	WNW	6	..	0	ACu; ASt; Cu; CuNb	7-10	ACu; Cu; CuNb	7-10	Fog until 8h
23	744.9	12.0	92	13.9	4.7	0.01		SW	1	NW	1	W	12	WSW	2	Cu; CuNb	7- 9	Cu; CuNb	7- 8	Clearing in evening
24	741.2	12.0	87	15.6	4.5			WNW	1	..	0	WSW	12	SW	3	Cu; StCu; CuNb	2- 8	Cu; CuNb	7- 8	Heavy fog till 8h5; clear at night
25	740.8	9.5	85	15.7	1.4			..	0	..	0	E	2	ESE	3	StCu; Nb; ACu	1- 3	ACu; ASt; Ci	7- 8	Heavy fog 7h-9h
26	737.8	10.6	77	15.7	7.3	0.04		ENE	2	ENE	8	NE	5	E	4	ACu; ASt; CuNb	7-10	ACu; ASt; CuNb	7-10	A few showers through day and in evening
27	733.9	11.3	97	14.9	9.3	0.22		NNE	2	WNW	8	WNW	4	WNW	6	CuNb; Nb	7-10	CuNb; Nb	7-10	Frequent heavy showers; thunder and lightning in am
28	736.7	12.4	96	16.9	7.5	0.31		NNW	1	NNW	1	NW	5	N	2	CiCu; ACu; CuNb	7-10	CiCu; ACu; CuNb	7-10	Heavy fog early; hail in pm; heavy rain in pm and at night
29	732.1	9.8	96	13.9	6.8	0.96		NNW	4	NNW	4	WSW	10	WSW	4	Nb	10	Nb	10	Heavy showers
30	740.5	11.1	91	11.6	6.8	0.11		W	2	WSW	1	WSW	7	..	0	CiCu; CuNb; Nb	7-10	CuNb; Nb	7-10	Frequent fine showers
31																				
SUM						3.06														
MEAN	743.3	12.5	76	18.9	5.3				1.3		2.4		5.6		1.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 75

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	314	293	294	292	293	304	316	337	380	383	382	347	317	286	280	263	268	298	313	293	292	278	261	250	306	0
2	✓	✓	✓	243	255	258	250	263	301	328	347	398	384	328	311	304	(260	239)	231	248	243	248	280	283	286	297	313	287	0
3	✓	✓	✓	306	329	314	300	332	427	469	491	428	392	(229	215)	202	208	206	200	189	201	213	236	248	252	263	303	290	0
4	✓			294	315	324	318	328	328	289	177	193	191	190	188	185	183	183	182	189	189	179	182	201	203	198	224	226	0
5	✓	✓	✓	233	227	229	241	255	273	316	272	244	250	244	211	216	202	195	193	195	195	193	195	198	217	270	268	230	0
6	✓	✓	✓	297	279	248	269	285	296	305	293	295	268	252	258	259	266	280	284	285	272	248	247	216	259	286	285	272	0
7	✓	✓	✓	289	259	229	226	234	254	305	275	293	349	349	350	316	282	282	287	308	300	275	270	283	268	254	247	283	0
8	✓	✓	✓	246	248	255	257	265	261	260	337	401	468	445	447	389	339	335	323	315	297	289	294	307	329	280	261	319	0
9	✓	✓	✓	288	308	319	327	347	370	404	406	396	423	417	395	355	(272	239)	234	259	243	261	235	287	278	260	215	314	0
10	✓	✓	✓	201	224	270	293	313	348	405	404	433	394	354	344	280	263	259	249	(268	284)	274	274	248	260	251	270	298	0
11	✓	✓	✓	292	314	350	387	392	446	447	460	449	395	334	311	276	248	250	257	257	250	215	237	344	368	361	373	334	0
12	✓	✓	✓	361	360	363	372	388	393	395	395	373	335	272	244	240	220	207	209	163	187	222	223	228	251	283	283	290	0
13	✓			300	340	[291	201	151	128	122	115	183]	220	206	204	187	144	157	168	167	171	165	179	198	210	214	224	194	1
14	✓	✓	✓	179	176	178	171	180	180	137	198	226	224	228	215	208	193	190	196	190	188	204	248	252	228	248	285	205	0
15	✓	✓	✓	270	272	292	300	304	306	311	328	369	361	344	292	258	255	242	226	217	252	248	258	280	302	289	358	289	0
16	✓	✓	✓	363	372	399	425	399	402	404	427	426	405	361	292	259	(239	226)	215	239	248	254	239	279	311	350	336	328	0
17	✓			294	293	288	288	308	306	291	302	279	259	252	241	248	193	223	204	162	182	165	174	198	223	255	272	246	1
18	✓			248	154	167	211	176	185	168	89	187	206	223	196	194	190	204	206	198	206	210	206	217	224	194	69	189	2
19	✓			140	148	215	268	261	261	265	287	296	272	249	226	201	211	213	214	200	227	227	229	237	259	258	265	235	1
20	✓			295	308	336	288	224	237	231	220	211	203	154	190	191	150	165	185	189	202	213	231	224	206	209	211	220	1
21	✓	✓		228	240	256	250	269	284	269	284	293	277	254	215	166	177	161	174	176	187	185	208	214	228	213	226	226	1
22	✓	✓	✓	272	294	311	286	312	313	327	(317	289)	274	250	216	201	188	179	177	182	191	196	201	234	248	261	289	250	0
23	✓	✓	✓	291	282	275	329	293	240	266	312	303	233	202	196	188	187	179	180	187	180	189	203	215	243	267	249	237	0
24	✓	✓	✓	228	200	222	227	222	204	211	246	275	313	231	202	200	191	188	189	196	201	211	217	226	237	270	288	225	0
25	✓	✓	✓	349	322	305	316	338	383	458	368	417	442	296	251	202	203	203	215	243	255	248	172	227	273	304	332	297	0
26	✓	✓		332	318	316	312	317	315	348	348	329	335	314	286	269	237	237	270	252	248	246	240	254	236	239	242	285	1
27	✓			237	239	255	220	214	208	185	180	78	62	178	189	187	176	132	163	179	143	187	182	174	176	177	174	179	2
28	✓			179	166	166	198	221	196	213	179	248	265	210	177	174	184	150	207	88	127	172	141	184	184	190	130	181	2
29	✓			193	163	128	197	191	189	165	138	151	157	188	198	184	169	166	149	174	183	167	171	177	193	182	187	173	2
30	✓	✓		189	191	193	191	203	202	226	223	213	194	200	196	196	(194	185)	193	193	203	227	231	236	248	267	264	211	1
31																													
MEANS * 30 DAYS				265	263	268	274	276	285	295	292	302	298	271	253	235	217	212	215	213	218	221	223	239	249	255	256	254	
MEANS † 21 DAYS				275	274	280	287	295	310	329	337	344	338	299	276	252	234	227	227	230	234	236	238	255	267	275	283	276	
MEANS ‡ 18 DAYS				279	279	284	293	301	317	337	345	355	350	307	283	259	239	232	229	234	238	239	240	258	272	281	289	281	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌉=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 76

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1925

DAY	#	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	270	224	238	233	236	251	261	287	312	304	319	319	284	263	247	223	222	258	265	258	244	230	219	211	257	0
2	✓	✓	✓	212	224	230	222	239	263	296	306	337	345	312	291	273	232	(216	200)	211	215	215	231	241	250	261	286	254	0
3	✓	✓	✓	274	299	253	277	266	391	396	423	367	327	(217	200	182)	195	191	175	155	139	143	185	199	205	210	247	246	0
4	✓			261	275	291	271	223	257	213	96	130	145	153	159	160	162	163	156	145	137	130	136	143	162	143	142	177	0
5	✓	✓	✓	161	179	169	198	192	209	248	209	206	209	211	177	190	176	168	168	153	159	154	167	177	189	234	230	189	0
6	✓	✓	✓	241	250	232	240	272	283	308	276	219	210	207	222	220	226	244	246	220	220	232	226	196	231	271	272	240	0
7	✓	✓	✓	267	231	198	194	197	215	259	240	252	310	313	321	300	271	261	251	251	259	244	230	247	229	226	211	249	0
8	✓	✓	✓	210	214	229	230	244	232	237	292	361	414	408	414	384	335	313	295	275	260	257	251	272	297	259	230	288	0
9	✓	✓	✓	251	282	288	309	320	332	341	382	332	380	400	395	347	280	(242	215)	222	205	225	205	242	230	208	200	285	0
10	✓	✓	✓	180	204	244	241	263	327	366	366	352	368	348	343	261	250	239	223	240	(254)	242	253	226	241	242	260	272	0
11	✓	✓	✓	268	292	316	338	350	424	425	445	408	384	329	303	270	232	228	233	229	225	177	206	321	359	358	357	312	0
12	✓	✓	✓	349	355	356	366	388	406	402	385	346	316	273	242	238	215	207	198	153	169	189	210	209	216	253	253	279	0
13	✓			276	290	[261	180	122	109	109	100	160]	192	207	182	{163	156	120}	133	134	129	128	113	138	127	155	159	160	1
14	✓	✓	✓	143	109	102	109	104	107	85	133	176	199	209	198	187	172	163	151	147	154	155	181	200	187	196	229	158	0
15	✓	✓	✓	231	225	249	262	263	272	267	290	296	321	313	283	246	241	218	200	198	207	217	239	259	270	262	298	255	0
16	✓	✓	✓	338	337	356	402	376	385	387	408	388	378	346	287	250	231	(217)	204	209	209	223	204	251	282	321	292	303	0
17	✓			255	257	250	230	251	252	250	262	255	240	238	{244}	232	{189	192}	(175)	{155}	136	{121}	160	141	146	166	209	209	1
18	✓		{237	251	232}	148	118	114	{151	206	225}	195	182	115	131	148	138	134	138	120	102	127	144	125	{131	44}	152	2
19	✓		{86	127}	155	178	175	195	196	262	247	220	201	179	166	154	153	158	143	133	133	115	143	156	188	210	170	1
20	✓		226	{275}	253	231	{244}	213	189	185	181	166	{198}	164	152	161	153	144	142	143	141	167	170	147	144	167	182	1
21	✓	✓		177	188	192	189	207	202	215	228	248	240	231	204	176	168	156	145	143	138	134	136	147	198	175	177	184	1
22	✓	✓	✓	229	253	225	206	228	228	240	(249	235)	219	222	176	166	160	154	142	137	108	115	130	155	171	200	219	190	0
23	✓	✓	✓	240	215	199	228	247	196	233	250	237	189	176	177	164	161	(167	154)	141	131	122	129	142	172	217	190	187	0
24	✓	✓	✓	188	154	166	174	160	131	136	177	199	228	192	172	167	167	163	156	154	129	138	142	154	162	211	224	168	0
25	✓	✓	✓	280	289	270	272	260	303	366	338	368	370	268	215	162	172	164	167	188	198	190	143	189	241	268	294	249	0
26	✓	✓		302	282	279	295	263	304	290	297	283	292	284	256	232	215	222	242	209	211	206	216	217	197	178	188	248	1
27	✓			178	185	197	182	181	167	150	142	{159	144	122}	145	168	{108	95	154	143	137	151}	145	143	136	135	131	150	2
28	✓			131	126	122	159	167	155	145	138	214	227	180	163	163	{110	115	79	91	156	84	145	103	127	135	154}	141	2
29	✓			133	{142	130}	130	145	142	{152	211	176	167	159}	158	155	151	155	151	144	129	113	110	123	122	122	118	143	2
30	✓	✓	{122}	119	130	121	98	136	128	144	137	136	136	145	156	162	(163	155)	145	123	120	131	158	158	177	204	142	1
31																													
MEANS # 30 DAYS				224	228	227	227	227	240	248	258	260	261	245	228	212	195	188	181	175	173	169	176	190	199	209	214	215	
MEANS † 21 DAYS				235	235	234	243	246	267	280	292	289	292	272	254	231	215	207	197	191	189	189	194	212	225	236	242	236	
MEANS ‡ 18 DAYS				241	241	240	250	256	275	292	303	300	304	281	263	238	221	211	200	195	194	195	199	218	231	245	250	243	

DESIGNATIONS AND REMARKS:

#=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 77

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	117	143	74	89	103	86	66	70	72	70	86	91	79	84	79	84	89	74	77	74	84	93	96	81	86	0
2	✓	✓	✓	84	77	81	79	84	84	86	81	77	77	81	77	84	81	81	89	72	54	65	68	72	93	121	96	81	0
3	✓	✓	✓	105	109	101	129	133	113	117	109	101	84	81	84	93	89	93	93	93	68	72	77	105	96	96	96	97	0
4	✓	✓	✓	93	101	105	109	105	101	81	77	77	84	93	105	93	96	96	101	96	68	56	56	51	56	56	56	84	0
5	✓	✓	✓	56	56	60	72	72	68	65	60	60	68	77	81	81	89	93	84	81	77	65	48	48	48	44	44	67	0
6				48	48	48	48	62	33	44	42	49	54	[49]	66	70	77	74	77	77	77	—	—	—	82	77	103		1
7			≷	Z	Z	Z	Z	113	158	Z	Z	Z	138	141	Z ≶	121	109	105	105	101	101	93	96	89	84	[81]	—		2
8				—	—	—	—	—	—	—	—	≷ Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	133	110	N 86≶		2
9				119	125	—	—	—	—	—	—	—	96	101	95	98	109	113	93	105	96	93	96	101	—	—	—		0
10				—	—	—	—	—	—	—	—	99	90	86	—	—	99	—	—	101	84	90	96	96	86	99	99		0
11	✓	✓		100	[82	59	53	49	46	41	44	66]	63	[63]	66	65	70	82	86	84	66	65	61	59	56	53	61	64	0
12	✓	✓	✓	68	70	72	70	70	72	84	65	72	72	84	94	105	117	113	117	113	101	90	74	70	79	61	56	83	0
13				61	65	61	61	61	61	50	48	50	61	84	101≶	84	56	101	Z	N110	113	105	Z	Z	Z	N 81	Z ≶		1
14			≷	Z	Z	110	Z	N 77	146	N 81	101	Z	Z	123		136	Z	Z ≶	86	97	88	103	94	94	88	81	96		1
15	✓	✓	✓	101	99	105	134	130	121	117	113	97	88	84	86	96	101	117	115	107	86	79	84	[82	119	138	160]	107	0
16				[176]	—	—	—	—	—	—	—	84	79	79	79	72	82	81	84	81	49	53	61	61	59	56	59		0
17				50	46	46	46	44	41	41	44	49	53	72	66	74	82≶	Z	Z	Z	70≶	82	74	72	77	72	77		1
18	✓	✓	✓	84	94	101	107	115	113	96	94	144	105	99	97	99	81	96	86	101	96	86	88	81	72	61	61	94	0
19	✓	✓	✓	56	61	56	50	56	56	56	50	65	81	84	88	94	97	101	105	117	84	84	81	94	88	94	94	79	0
20				94	82	86	86	90	84	81	94	72	68	70	72	—	—	—	—	—	90	82	101	115	96	84	79		0
21	✓	✓	✓	81	65	84	[105	117	117]	94	88	88	84	81	81	94	94	110	110	105	97	77	65	63	63	65	77	88	0
22	✓	✓	✓	70	81	79	(86	84)	99	103	101	103	103	103	110	111	110	115	123	111	99	94	96	97	88	88	81	97	0
23				84	88	84	101	101	—	—	—	—	50	68	97	97	77≶	Z	Z	Z	Z	Z	Z	173	238	121	— ≶		2
24			≷	94	Z	142	130	153	150	134	121	127	132	Z	Z ≶	124	127	138	142	134	124	121	111	103	94	111	111		1
25	✓	✓	✓	123	142	156	142	110	107	121	119	107	[115	123]	115	115	132	115	110	110	94	84	81	90	77	70	72	110	0
26	✓	✓	✓	84	82	77	97	82	72	74	74	81	96	88	94	96	111	117	[121	127]	103	79	65	61	72	65	65	87	0
27				63	68	56	82	81	96	96	77≶	39	96	Z	Z	44	44	150	130	138	111	136≶	146	142	138	138	88		2
28	✓	✓	✓	77	66	59	77	77	72	74	68	110	82	94	115	97	121	117	124	123	113	110	97	77	100	97	84	93	0
29	✓			77	72≶	72	77≶	81	61	50	50	77≶	110	101	110	105	105	113	110	101	101≶	101	88≶	72≶	94	101	101	89	0
30				97	88	[113	124	170	130	121	178	142]	94	88	88	84	—	—	—	—	84	72	82	94	90	72	74		0
31	✓	✓	✓	70	66	70	76	65	68	70	53	79	77	77	84	94	97	105	105	105	81	94	97	86	81	70	70	81	0
MEANS * 17 DAYS				85	86	83	91	90	86	82	77	87	86	88	93	94	99	103	104	102	86	81	76	76	81	81	80	87	
MEANS † 16 DAYS				86	87	84	92	91	87	84	79	87	84	87	92	94	98	102	103	102	85	80	76	76	80	80	78	87	
MEANS ‡ 15 DAYS				85	87	85	95	94	90	87	81	89	86	89	93	95	100	103	104	103	86	81	77	77	82	81	80	89	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 78

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per-cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.7	10.2	91	13.4	3.6	0.07		..	0	..	0	ESE	2	SE	1	CiSt; ASt; CuNb	6- 8	ACu; CuNb	7- 8	Heavy fog early
2	745.7	9.5	78	15.6	1.0			..	0	..	0	..	0	SSE	1	Ci; CiSt	9-10	Ci; CiSt	10	Dew early
3	748.1	9.8	79	15.6	0.2			..	0	SSE	2	ENE	2	..	0	Ci; ACu	0- 1	Ci; ACu	0- 1	Dew early; clear at night
4	748.5	9.7	72	15.2	-0.1			..	0	..	0	NE	2	..	0		0		0	Frost early
5	743.8	8.2	69	17.9	0.4			..	0	N	2	NW	5	..	0	ACu	0-1	ACu; Cu	1- 3	Frost early
6	740.5	10.0	64	20.0	2.5			NW	2	..	0	N	6	NW	1	ACu; ASt; Cu	7- 8	Cu; CuNb	7- 8	Light showers in evening; fog at 22h
7	738.0	12.8	84	16.0	7.4	0.34		W	4	NNW	3	WSW	16	WNW	5	Cu; CuNb	7-10	Cu; CuNb	7-10	Showers in early hours and through day
8	737.0	10.2	93	13.8	6.1	0.14		NW	4	WSW	17	WSW	16	SW	8	Nb	10	Nb	10	Showers in early hours; almost steady rain all day; rain eve.
9	745.9	10.1	93	14.2	5.0	0.24		SSW	3	SSE	1	S	15	SSW	3	Nb; CuNb	10- 7	Nb; CuNb; Cu	4- 6	
10	751.1	8.3	84	14.6	0.2			SSW	2	SE	1	ESE	3	SSE	3		0		0	Frost and perhaps fog early
11	750.0	8.3	85	16.8	-0.3			..	0	NE	1	NNE	3	..	0		0		0	Frost and fog early
12	746.1	8.0	81	17.6	0.1			..	0	..	0	NW	5	WNW	1		0		0	Frost early
13	741.3	10.7	73	18.2	1.1			WNW	2	N	4	NNW	18	SW	8	ACu	5- 8	ASt; StCu; CuNb	7-10	Rain in pm and evening
14	742.5	9.7	92	13.3	6.5	0.69		..	0	SW	2	SSW	7	SW	2	ACu; Cu; Nb	6-10	ACu; StCu; CuNb	7-10	Rain at intervals in am; clear in evening
15	750.3	7.0	81	13.3	-1.0	0.07		SSE	2	..	0	ESE	4	SE	1	StCu	0- 1		0	Frost early
16	750.5	6.8	78	13.7	-2.0			SSE	1	V	1	..	0	..	0		0		0	Heavy frost early
17	744.3	7.4	79	14.9	-2.3			..	0	N	1	W	8	SW	1	Ci; ASt; StCu	7- 8	StCu; CuNb	7-10	Frost early; rain in pm and evening
18	743.9	8.8	85	13.4	1.3	0.18		SW	4	S	1	SSW	4	W	1	ACu; ASt	2- 6	Cu; CuNb; Nb	7-10	Few light showers in pm; clear in evening
19	746.5	9.2	91	15.3	1.2	0.03		NNW	1	..	0	SE	6	SE	4	ACu; StCu; Nb	4- 8	ACu; CuNb	7- 8	Mist-like rain 8h to 9h5
20	751.3	8.6	74	14.6	0.9			SSE	1	SE	1	ENE	7	SE	4		0		0	Frost early; clear in evening
21	751.7	10.6	60	17.2	2.7	T		ENE	5	ENE	9	ENE	12	ENE	1		0		0	Dew early; clear at night
22	748.5	11.6	54	18.2	2.9	T		NNE	3	NE	10	NE	13	NNE	4	CiCu; CiSt; ACu; ASt	10	CiCu; ACu; Cu; StCu	10	Dew early; overcast in evening
23	743.4	14.1	44	18.7	...			NNE	3	N	8	NNW	8	N	5	ASt; CuNb; Nb	10	CuNb; Nb	10	Occasional drops rain in am; hard rain all pm and evening
24	745.8	12.0	85	15.5	...	0.65		WNW	3	W	2	S	3	SW	1	ACu; Cu; CuNb	9-10	ACu; Cu	10- 1	Much rain in early hours; occasional showers in am
25	751.1	9.6	78	16.1	0.0	0.03		SSW	1	ESE	1	E	4	..	0		0		0	Frost early; hazy in E and NE at 9h
26	747.3	11.5	52	20.8	0.1			..	0	NE	4	NNW	6	..	0	CiSt; CiCu	5- 8	CiSt; CiCu	7- 8	Frost early
27	740.5	13.6	96	14.2	5.5	0.03		..	0	WNW	7	WSW	13	SSW	2	CuNb; Nb	7-10	CuNb; Nb	7-10	Frequent showers all day; cloudy in evening
28	745.1	11.4	84	16.2	5.6	0.16		SW	2	..	0	WSW	8	W	5	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	
29	744.3	12.5	89	18.2	6.8	T		WNW	2	WNW	1	W	16	S	2	Cu; FrCu; StCu; Nb	7- 8	CuNb; Nb; StCu	7- 8	Probably fog early; occasional light showers in day and eve.
30	748.6	9.5	94	19.3	4.3	0.03		..	0	ESE	2	..	0	SSW	4	FrCu	0- 1	FrCu	0- 1	Fog until 8h5; clear in evening
31	750.4	9.1	77	17.8	0.1			SSW	1	..	0	ESE	1	SSE	1	Ci; CiSt	3- 6		0	Frost early; smoke from office at 10h
SUM						2.66														
MEAN	746.0	10.0	79	16.0	2.1			1.5		2.6		6.9		2.2						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 79

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	⌈148	148	266	226	235	276	320	324⌋	351	337	256	215	214	213	217	220	231	246	235	249	222	201	214	240	242	0
2	✓	✓	✓	259	286	285	289	291	272	275	292	310	(305	308)	304	259	243	233	248	237	248	243	242	249	222	193	237	264	0
3	✓	✓	✓	239	234	236	202	207	223	227	236	235	329	324	304	293	274	261	263	276	266	239	195	185	198	209	231	245	0
4	✓	✓	✓	254	269	264	272	289	289	311	340	382	341	279	248	235	227	221	217	226	239	248	268	296	296	305	315	276	0
5	✓	✓	✓	313	333	333	328	330	347	372	377	395	349	293	260	243	239	215	209	218	222	243	273	316	350	386	394	306	0
6	✓			406	410	390	382	383	376	415	416	383	389	328	276	246	224	216	215	204	200	211	213	209	224	⌈200	139⌋	294	1
7	✓			⌈228	154	154	201⌋	209	202	213	221	184	168	172	167	163	(160	162)	162	157	167	165	171	177	190	198	211	182	2
8	✓			239	≷210	190	163	183	165	144	168	151	139	148	150	162	138	130	125	158	148	119	149	150≶	165	166	168	160	2
9	✓			173	177	176	180	185	204	190	194	193	178	156	161	158	156	163	167	178	176	176	172	168	174	172	163	175	0
10	✓			169	166	163	145	146	152	161	165	200	200	189	209	215	201	189	177	177	191	189	197	193	198	189	174	181	0
11	✓	✓		168	178	208	188	209	216	247	242	285	297	297	272	272	260	246	246	239	241	246	246	258	289	318	310	249	0
12	✓	✓	✓	314	298	292	325	304	(315	338)	370	393	360	319	283	250	237	224	214	211	218	229	260	293	285	340	360	293	0
13	✓			368	378	374	371	399	414	458	471	477	403	279	223	201	185	187	188	193	193	200≶	190	139	182	166	127≶	282	1
14				≷132	151	209	165≶	173	187	≷176	210	152	190	196	182≶	189	(189	188)	174	180	187	—	—	—	—	191	165		1
15	✓	✓	✓	172	165	173	176	185	196	191	198	224	222	211	209	198	165	155	161	154	182	194	202	201	183	166	156	185	0
16	✓			140	148	162	182	201	226	240	260	287	300	291	268	263	260	267	270	278	279	263	241	264	285	300	324	250	0
17	✓			389	438	459	457	448	489	498	436	403	323	247	222	213	200≶	177	196	137	197≶	211	214	239	247	263	254	307	1
18	✓	✓	✓	236	242	235	217	218	217	226	231	246	(214	198	208)	208	202	204	207	207	206	220	228	243	260	305	298	228	0
19	✓	✓	✓	328	346	381	401	394	408	414	428	389	307	280	248	214	198	198	204	204	234	226	239	233	236	229	224	290	0
20	✓			230	266	282	295	~~310~~	314	312	325	350	338	315	303	280	260	247	227	211	213	198	163	166	207	227	276	263	0
21	✓	✓	✓	302	317	303	291	280	265	278	273	279	273	257	236	235	(221	207)	206	220	⌈208	190	218	247	258	267⌋	284	255	0
22	✓	✓	✓	280	293	296	283	270	270	265	264	258	248	235	230	230	211	215	221	221	217	227	234	244	250	258	267	249	0
23	✓			270	268	277	269	264	250	256	260	249	250	234	217	200	224≶	174	177	190	134	176	189	162	117	167	165≶	214	2
24	✓			190	176	176	165	154	163	167	178	191	189	≶173	173≶	177	179	166	162	165	168	179	165	177	191	177	179	174	1
25	✓	✓	✓	189	174	167	176	⌈214	234⌋	210	202	242	201	203	203	213	216	220	227	235	224	243	248	247	268	288	291	222	0
26	✓	✓	✓	279	304	325	312	328	369	350	342	311	217	221	215	197	190	194	196	197	210	216	235	250	255	279	293	262	0
27	✓			305	289	306	304	311	280	260	266	250	213	156	140	160	151	160	165	165	166	166	177	185	190	189	201	215	2
28	✓	✓	✓	224	213	223	216	227	237	235	248	246	227	193	189	190	(187	184)	179	188	189	189	195	194	179	185	222	207	0
29				259	285	249	222	215	264	293	293	292	224	190	188	179	174	182	179	176	178	197	204	202	185	177	174		0
30	✓			178	191	⌈154	150	122	167	163	110	182⌋	233	222	215	216	220	223	226	227	218	220	221	201	200	214	215	195	0
31	✓	✓	✓	222	235	228	234	274	269	261	294	259	209	211	201	190	198	200	203	216	207	162	163	176	187	220	227	219	0
MEANS * 29 DAYS				249	252	259	255	261	269	276	280	~~286~~	268	241	225	217	208	202	203	204	207	208	212	217	224	234	239	237	
MEANS † 16 DAYS				245	252	263	258	266	275	282	291	300	277	255	239	228	218	212	214	218	222	222	231	241	245	260	272	249	
MEANS ‡ 15 DAYS				251	257	267	263	270	279	285	295	301	276	253	237	225	215	210	212	216	221	220	230	240	242	256	269	250	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 80

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	[106	94	201	167	160	227	252	275]	273	282	228	189	187	178	188	185	187	180	174	167	159	142	148	166	188	0
2	✓	✓	✓	185	211	218	241	227	228	217	234	250	(232	234)	251	217	209	192	183	164	190	187	178	179	159	142	183	205	0
3	✓	✓	✓	170	177	183	159	156	159	178	175	166	253	291	280	261	240	225	211	207	198	192	156	129	139	166	176	194	0
4	✓	✓	✓	188	194	207	212	225	239	250	281	303	290	252	222	222	208	189	178	168	188	199	209	260	265	261	259	228	0
5	✓	✓	✓	284	298	282	309	321	338	339	348	359	329	293	261	246	230	206	200	198	178	195	251	290	307	317	353	280	0
6	✓			359	377	352	346	338	349	367	384	337	348	307	262	239	218	213	207	190	170	168	190	180	167	[155	112]	264	1
7	✓			[182	180	241	185]	123	118	98	36	101	133	131	88	130	134	(131	122)	127	116	123	128	141	154	158	152	135	2
8	✓			175	≷163	131	139	125	135	113	120	128	122	123	116	88	120	91	107	84	108	120	96	77≷	104	108	125	117	2
9	✓			115	109	116	86	86	82	85	103	125	138	138	138	137	138	134	138	137	126	118	119	109	103	102	86	115	0
10	✓			113	139	125	106	84	72	122	118	152	164	169	188	192	178	156	154	148	139	135	121	129	142	142	131	138	0
11	✓	✓		119	119	120	154	181	179	217	211	236	268	283	256	261	247	227	211	198	193	212	198	228	284	262	266	214	0
12	✓	✓	✓	278	263	253	284	304	(296	328)	361	348	337	307	280	241	219	206	197	188	169	175	213	247	230	263	323	263	0
13	✓			329	334	357	360	377	390	433	445	449	387	273	213	198	181	171	180	171	166	170≷	166	208	163	142	155≷	267	1
14				≷170	147	101	135≷	123	72	≷110	98	162	91	155	159≷	144	123	133	(154)	138	——	——	——	——	——	126	112		1
15	✓	✓	✓	89	109	108	96	97	110	122	133	155	179	184	188	178	146	138	133	129	133	126	143	138	110	96	82	130	0
16	✓			80	98	108	109	127	162	183	222	238	251	250	245	249	239	234	219	207	210	219	230	238	238	253	284	204	0
17	✓			326	373	443	442	415	443	477	418	380	311	247	229	211	197	185	197	198	167	135	139	166	176	198	187	278	1
18	✓	✓	✓	169	177	166	150	131	134	145	144	103	153	166	166	164	164	166	166	144	115	141	155	175	202	238	240	161	0
19	✓	✓	✓	256	292	333	337	336	321	352	336	321	234	209	191	192	183	176	177	166	156	141	164	155	163	167	168	230	0
20	✓			176	196	210	231	239	249	255	261	306	305	291	282	272	251	231	209	191	179	164	118	123	143	177	228	220	0
21	✓	✓	✓	241	272	252	205	205	167	189	212	239	241	242	232	229	228	(206	187)	187	[178	156	163	189	207	227]	233	212	0
22	✓	✓	✓	241	223	230	199	193	209	209	209	215	213	213	212	209	199	196	191	180	174	177	190	192	196	196	210	203	0
23	✓			211	217	224	215	223	215	219	225	235	230	213	200	185	209	≷220	251	263	279	233	185	115	83	130	143≷	205	2
24	✓			143	144	122	122	108	106	120	120	128	131	≷156	154≷	153	151	136	126	123	115	97	97	110	134	120	121	127	1
25	✓	✓	✓	108	108	86	103	[98	138]	128	136	185	166	175	172	183	178	188	194	185	176	188	185	185	225	219	236	164	0
26	✓	✓	✓	235	231	232	250	259	284	307	301	279	212	215	202	185	179	177	176	176	174	180	192	223	231	253	262	226	0
27	✓			273	260	274	258	252	249	233	239	234	181	181	192	151	144	130	130	122	122	108	103	96	86	97	118	176	2
28	✓	✓	✓	123	131	143	141	145	138	144	154	153	188	164	166	156	158	(158	151)	136	134	129	138	145	138	121	142	146	0
29				194	231	191	175	154	189	223	240	235	188	——	——	——	——	——	——	——	135	130	129	138	128	110	119		0
30	✓			128	133	[90	84	64	122	115	84	144]	198	192	194	183	189	179	177	168	148	158	156	145	143	154	164	146	0
31	✓	✓	✓	179	161	182	188	192	131	175	251	205	175	187	174	158	166	159	163	167	161	121	138	136	153	184	185	170	0
MEANS * 29 DAYS				192	199	207	203	200	207	220	225	233	229	218	205	196	189	180	177	169	164	160	162	168	172	179	189	193	
MEANS † 16 DAYS				186	191	200	200	202	206	222	235	237	234	228	215	206	196	187	182	174	169	168	178	189	197	204	218	201	
MEANS ‡ 15 DAYS				190	196	205	203	203	208	222	237	237	232	224	212	202	192	185	179	172	167	166	176	187	191	200	215	200	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 81

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1925

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		76	⌈126	148	162	186⌋	118	107	105	81	65	[56]	69	78	78	81	81	81	81	73	85	89	71	73	80	94	0
2	✓	✓		[59	52	48	46	46	41	44	39	44	65]	89	98	107	110	105	105	118	119	107	98	94	98	83	71	79	0
3	✓	✓	✓	89	100	94	94	98	96	89	94	61	73	69	73	81	81	98	94	100	85	63	78	80	101	105	92	87	0
4	✓	✓	✓	78	81	92	81	61	69	69	69	85	81	81	85	85	89	89	94	89	80	65	76	81	98	101	87	82	0
5				78	78	87	78	94	⌈116	210	298	166⌋	96	89	≷ Z		Z		Z ≶	73	85	89	89	69	69	81	81	81	69		1
6	✓	✓		[52	56	52	52]	65	56	65	65	56	83	76	78	81	92	92	94	94	94	89	85	69	61	65	71	73	0
7	✓	✓	✓	81	94	98	114	118	130	114	110	105	94	81	73	81	89	98	101	105	98	81	78	85	94	105	126	98	0
8	✓	✓		⌈150	146	146	157	150	157]	118	98	78	69	[65]	69	73	81	87	87	87	78	61	76	78	78	85	81	98	0
9	✓	✓	✓	81	81	89	98	101	85	81	85	83	80	89	92	87	92	100	100	101	89	78	83	83	80	81	83	88	0
10	✓	✓	✓	87	96	105	107	101	103	103	101	100	103	100	94	96	101	105	112	114	107	98	83	83	92	76	83	98	0
11	✓	✓	✓	89	87	101	114	112	101	100	[94	87]	100	112	105	94	83	92	94	101	80	76	78	85	85	89	83	93	0
12	✓	✓	✓	78	71	81	78	76	78	78	69	73	85	85	89	105	116	114	121	126	101	110	105	85	73	83	73	90	0
13				69	54	48	48	44	44	41	48	48	59	80	83	71	67	73	89	≷ 67	N 22	65	80	Z	100	80	80≷		1
14	✓	✓		≷ 80≷	89	87	105	130	107	101	92	100	101	101	103	92	100	98	100	100	112	100	89	83	61	61	59	94	0
15	✓	✓		54	54	52	52	39	33	44	44	≷ 85	110	[105]	101	107	96	94	114	103	101≷	96	87	105	100	87	92	81	0
16				≷ 101≷	98	103	101	≷ 78≷	116	98	98	≷ Z		126	123	Z	Z	N103	N 73	114	105	101≷	107	85	121	110	110	98		1
17	✓	✓	✓	92	87	81	89	105	71	73	73	87	92	87	78	65	85	73	85	94	81	73	61	61	61	61	52	78	0
18	✓	✓	✓	52	52	52	48	52	44	44	48	48	54	61	65	73	69	69	80	78	85	78	81	94	101	89	81	67	0
19				73	65	67	67	59	54	50	52	71	87	92	83≷	Z	N 76≷	98	103	92	92	87	107	118	123	123	155		1
20	✓	✓	✓	134	126	146	139	136	134	132	121	112	118	119	114	126	126	126	130	130	118	98	85	110	130	130	126	124	0
21	✓	✓	✓	126	121	118	126	137	130	101	98	98	110	110	118	110	105	98	98	98	98	78	81	105	126	142	150	112	0
22	✓	✓	✓	105	126	137	121	121	126	126	126	121	121	110	89	85	85	98	98	98	101	89	85	78	89	85	114	106	0
23	✓	✓	✓	134	126	118	134	130	134	118	(105)	94	81	76	76	80	65	69	73	85	85	71	85	73	85	101	105	96	0
24	✓	✓		98	94	89	89	85	81	81	81	73	61	69	69	81	98	94	89	85	69	69	85	94	98	⌈150	210⌋	91	0
25	✓	✓		⌈190	190	178	157	130	126	110	89⌋	73	69	61	65	65	56	61	61	61	52	61	78	73	76	80	83	94	0
26	✓	✓	✓	85	73	71	80	83	83	59	76	76	71	61	59	63	65	67	67	76	81	81	85	87	80	67	71	74	0
27	✓	✓		[63	59	54	54]	78	67	71	81	63	73	73	71	63	63	78	85	89	92	89	101	83	85	92	80	75	0
28	✓	✓	✓	94	89	81	73	71	67	63	56	52	52	61	52	61	59	61	65	83	78	80	73	65	69	76	78	69	0
29	✓	✓	✓	59	59	65	67	81	76	85	87	76	69	[81]	81	78	83	78	87	80	76	54	52	50	78	76	69	73	0
30	✓	✓	✓	63	69	67	73	71	69	65	63	65	71	76	83	94	85	85	101	81	89	80	81	89	94	89	85	79	0
31				81	81	73	81	85	73	61	61	73	65	78	78	81	78	85	81	78	94	81	81	118	130	130	—		0
MEANS ✱ 26 DAYS				90	92	94	97	99	92	86	83	80	83	83	83	85	87	89	93	94	90	81	82	83	87	90	92	88	
MEANS † 26 DAYS				90	92	94	97	99	92	86	83	80	83	83	83	85	87	89	93	94	90	81	82	83	87	90	92	88	
MEANS ‡ 17 DAYS				90	90	94	96	97	94	88	87	84	86	86	84	86	87	89	94	96	90	80	79	82	90	92	92	89	

DESIGNATIONS AND REMARKS:

✱ = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 82

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	749.8	9.8	83	21.8	1.1			..	0	..	0	NNW	1	SSW	2		0		0	Frost early; fog from 7h to 7h5
2	748.4	11.8	82	20.0	2.7			..	0	..	0	SW	5	S	3	ACu; StCu; ASt; Cu	7-10	Cu; StCu	7- 8	Dew early; clear at night
3	749.6	9.4	89	16.7	6.2			SE	2	ENE	10	ENE	10	SE	3	StCu; Nb	10	Cu	7-10	Dew early; clear at night
4	744.1	12.2	64	20.6	3.8			..	0	NE	6	NE	8	SE	4		0	Cu	1- 6	Dew early; few Cu clouds in evening
5	738.8	14.0	87	16.9	5.1			NW	2	NNW	5	WSW	8	W	1	ACu; ASt; Cu; Nb	7- 9	ACu; CuNb; Nb	7- 8	Heavy fog until 8h5; shower at 13h; clearing at night
6	742.1	12.8	81	19.1	2.4	0.02		..	0	..	0	SSW	10	SW	1	Cu	1- 6	Cu	7- 8	Heavy fog to 8h; few Cu at night
7	746.3	11.5	82	19.1	2.5			S	2	..	0	SE	7	SE	4		0		0	Fog early
8	748.3	14.0	60	22.4	3.8			S	4	E	2	ENE	12	ESE	4		0		0	Dew early
9	749.2	13.6	38	20.7	8.5			NE	12	NE	9	ENE	11	E	3		0		0	Dew early
10	748.8	12.7	39	19.8	5.8			NE	8	NE	12	NE	12	E	4		0		0	
11	748.4	12.6	40	20.9	6.9			NE	8	ENE	8	NE	7	E	3	CiSt; CiCu	7-10	CiSt; CiCu	7-10	Clear at night
12	745.6	13.5	33	22.5	2.5			..	0	NNE	1	W	4	SSW	2		0	Cist	1- 3	
13	738.8	13.5	34	20.2	0.8			..	0	NNW	3	WNW	15	NW	10	CiCu; CiSt	7-10	Cu; ACu; CuNb	7-10	Rain at intervals after 17h
14	738.4	12.0	83	17.2	5.7	0.10		WSW	2	SSE	1	WSW	5	SW	2	ACu; FrCu	4- 8	ACu; FrCu	7- 8	Clear at night
15	739.4	12.2	78	17.8	7.6	T		..	0	NNW	1	W	10	W	2	Cu; FrCu; CuNb	7- 9	Cu; FrCu; CuNb	7- 8	Occasional misty showers
16	739.8	12.5	95	17.0	8.4	0.12		NW	1	NNW	3	WSW	16	WSW	5	Nb	7-10	Nb	7-10	Frequent showers all day and until 21h
17	746.3	11.1	72	14.8	5.3	0.05		..	0	..	0	SW	5	SW	1	Cu; ACu; ASt; CuNb	7-10	Cu; ACu; ASt; CuNb	7-10	Dew early; few drops rain in am; clear at night
18	747.3	10.0	76	17.2	1.9			..	0	NNW	1	W	1	SW	3	ACu; ASt	7-10	Cu; CuNb	10	Dew early; clear at night
19	743.4	12.1	92	17.4	2.3	0.04		..	0	..	0	SW	12	SSW	4	ACu; ASt; Cu; CuNb	7-10	ACu; ASt; Cu; CuNb	7-10	Rain in early hours until 8h; shower at 12h and in evening
20	749.0	8.3	57	14.7	1.3	0.09		SE	7	SE	7	SE	8	S	5	StCu	0- 1		0	Dew early
21	750.0	10.1	64	15.7	1.1			SSE	3	ESE	5	SE	7	SSE	4		0		0	Dew early
22	750.5	11.3	68	18.1	1.6			S	5	ESE	7	SE	4	SE	4		0		0	Dew early
23	750.7	11.7	73	18.8	2.1			SSE	4	ESE	4	ESE	5	SE	4	FrCu	4- 6	FrCu	4- 6	Dew early
24	749.1	12.0	63	22.2	2.5			S	3	ESE	3	V	1	S	4	FrCu	1- 3	FrCu	4- 6	Dew early
25	748.6	14.3	55	23.7	3.3			S	2	ESE	1	V	2	SSW	3		0		0	Dew early
26	748.0	14.8	57	22.8	2.3			S	3	..	0	SW	5	SSW	2		0		0	Dew early
27	748.5	11.7	80	15.9	4.9			SW	1	SSE	6	SE	10	SE	4	ACu; CuNb; Nb	10- 7	ACu; CuNb; Nb	6- 3	Dew early; cloudless in evening
28	749.7	8.8	57	15.3	2.6			ESE	9	E	17	ENE	15	ESE	3		0		0	
29	746.5	12.0	35	17.6	2.5			ENE	6	NE	15	NE	7	E	1		0	ACu	1- 3	
30	745.5	13.0	37	21.4	0.8			S	1	ENE	1	V	2	SSE	5	ACu; ASt	1- 3	ACu; ASt	1- 3	Clear in evening
31	750.8	14.6	33	19.7	2.1			SE	4	ENE	8	E	12	SE	6		0		0	
SUM						0.42														
MEAN	746.4	12.1	64	19.0	3.6				2.9		4.4		7.6		3.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 83

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈221	115	117	105	117	204	215	204	269⌋	322	328	336	304	291	292	285	264	248	252	257	243	259	261	257	240	0
2	✓	✓		259	260	270	300	348	368	384	417	411	338	216	203	193	185	185	187	188	187	201	210	213	221	242	249	260	0
3	✓	✓	✓	227	220	240	256	272	282	303	304	236	215	228	237	246	224	230	217	227	252	269	240	236	189	191	239	241	0
4	✓	✓	✓	286	300	291	318	369	357	339	286	287	283	260	251	230	243	250	237	246	255	259	269	251	235	236	259	275	0
5	✓			291	315	348	333	296	⌈224	150	132	215⌋	246	235	237	213	(218)	224	224	224	227	229	240	221	216	224	242	238	1
6	✓	✓		255	259	310	346	338	317	301	298	375	266	234	222	218	223	220	217	214	218	213	220	244	250	239	223	259	0
7	✓	✓	✓	226	216	214	204	193	194	198	201	224	237	227	243	234	228	227	224	222	228	223	221	206	215	197	165	215	0
8	✓	✓		156	157	167	177	185	195	224	247	289	302	284	283	263	248	247	236	239	223	224	221	239	248	270	276	233	0
9	✓	✓	✓	294	295	292	283	280	285	277	283	267	259	258	247	241	240	239	233	236	228	248	256	270	224	259	292	262	0
10	✓	✓	✓	282	272	268	260	268	258	263	261	256	243	215	206	204	204	208	201	202	204	203	231	222	224	251	263	236	0
11	✓	✓	✓	248	250	244	249	255	255	246	241	235	216	193	188	191	(190)	189	188	189	203	189	198	209	218	230	244	219	0
12	✓	✓	✓	264	291	293	304	305	304	304	306	308	272	259	233	202	201	198	179	194	201	189	209	233	239	234	249	249	0
13	✓			241	304	346	373	394	417	436	450	439	381	291	250	210	206	202	160	166	182	200	189	162	179	191	180	273	1
14	✓	✓		184	198	201	196	189	213	216	222	220	209	189	178	184	176	176	172	174	182	185	193	203	242	270	261	201	0
15	✓	✓		273	278	282	282	301	327	270	234	233	213	182	188	184	174	172	179	177	174	188	200	204	198	221	224	223	0
16	✓			206	197	202	203	214	209	214	239	235	208	166	143	152	157	152	144	145	163	166	166	172	185	174	198	184	1
17	✓	✓	✓	206	226	228	227	224	258	252	258	233	198	209	201	191	191	190	196	182	182	198	213	222	244	248	261	218	0
18	✓	✓	✓	285	285	292	304	344	371	383	329	337	325	273	248	222	(209	201)	197	206	204	198	194	201	213	213	247	262	0
19	✓			246	264	272	307	330	348	340	349	349	250	203	187	168	173	169	167	176	176	156	167	171	177	165	140	227	1
20	✓	✓	✓	160	172	176	185	191	196	189	182	200	179	169	154	143	132	127	123	119	132	141	187	150	139	140	151	160	0
21	✓	✓	✓	165	178	188	198	193	201	217	248	222	202	182	165	150	185	187	189	178	160	172	171	151	135	119	137	179	0
22	✓	✓	✓	156	154	141	163	171	173	168	193	217	195	188	201	206	177	166	177	187	174	176	179	183	160	167	172	177	0
23	✓	✓	✓	152	157	174	171	182	185	197	214	240	277	268	256	243	259	272	244	210	217	226	202	213	214	202	289	219	0
24	✓	✓		191	200	214	215	234	255	272	282	313	344	335	300	266	256	248	248	247	252	237	204	214	⌈195	128	104⌋	240	0
25	✓	✓		⌈104	106	118	130	140	161	177	216⌋	280	304	293	258	240	(236	222)	231	237	243	215	209	213	214	203	202	206	0
26	✓	✓	✓	201	207	208	211	196	198	234	226	208	215	217	218	200	196	194	183	166	161	167	168	174	197	197	193	197	0
27	✓	✓		201	231	259	264	223	240	224	217	200	211	177	166	163	154	138	128	114	120	134	133	140	140	144	160	178	0
28	✓	✓	✓	146	162	176	209	224	234	243	255	248	211	190	174	173	152	152	160	162	182	182	193	236	214	234	246	198	0
29	✓	✓	✓	282	295	287	292	272	277	263	248	235	221	201	187	189	185	177	171	168	174	195	194	249	233	247	264	229	0
30	✓	✓	✓	278	268	287	276	292	307	319	333	308	300	274	266	237	217	218	209	206	201	204	213	185	213	228	236	253	0
31	✓			244	255	264	283	291	308	337	370	293	270	257	214	201	178	187	188	201	177	152	144	117	106	140	190	224	0
MEANS * 31 DAYS				224	229	238	246	253	262	263	266	270	255	232	221	208	203	202	197	196	198	200	203	205	204	209	220	226	
MEANS † 26 DAYS				219	221	228	236	243	254	257	258	264	252	233	223	212	207	205	200	198	200	203	207	212	210	214	226	224	
MEANS ‡ 17 DAYS				227	232	235	242	249	255	259	257	251	238	224	216	206	202	201	196	194	198	202	208	211	206	211	230	223	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 84

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[141	74	89	82	94	155	161	146	234]	270	303	298	273	271	265	261	241	214	213	200	180	180	180	200	197	0
2	✓	✓		212	196	241	241	297	319	340	345	353	292	180	167	163	156	154	145	143	131	120	120	142	147	171	187	207	0
3	✓	✓	✓	164	152	174	201	235	251	272	273	227	190	204	216	232	214	209	199	185	198	212	189	166	134	145	188	201	0
4	✓	✓	✓	209	211	237	236	273	282	263	223	247	261	244	235	216	229	231	220	208	202	217	212	189	188	188	211	226	0
5	✓			230	270	300	282	259	[176	122	116	193]	229	222	198	188	241	209	200	196	180	190	190	180	177	180	189	205	1
6	✓	✓		218	241	264	282	302	260	253	255	321	245	223	211	207	207	197	199	190	181	164	155	185	199	198	188	223	0
7	✓	✓	✓	188	174	177	154	148	147	156	156	147	193	211	232	229	218	211	205	197	177	166	163	166	168	147	122	177	0
8	✓	✓		110	118	120	120	135	135	175	184	267	282	272	283	263	242	239	228	220	200	199	190	193	202	237	251	203	0
9	✓	✓	✓	271	276	268	255	239	239	234	230	238	240	241	240	238	237	225	219	219	200	205	206	200	178	200	249	231	0
10	✓	✓	✓	248	245	232	210	187	190	202	209	222	215	208	201	192	195	192	182	180	171	160	180	179	185	210	200	200	0
11	✓	✓	✓	227	223	209	198	193	199	200	194	209	196	179	176	181	178	177	164	163	164	167	153	147	172	183	197	185	0
12	✓	✓	✓	227	262	264	274	263	280	282	267	270	247	241	231	189	178	167	156	[144	138	92	153	179	199]	195	188	212	0
13	✓			209	237	307	370	386	409	431	431	422	363	281	234	200	205	197	155	167	188	174	166	156	158	161	145	256	1
14	✓	✓		131	134	135	131	128	139	139	166	169	153	164	163	166	151	152	148	134	129	120	120	129	156	179	192	147	0
15	✓	✓		210	212	227	227	240	268	228	188	178	182	172	177	167	160	161	159	145	134	130	144	142	131	148	166	179	0
16	✓			169	156	142	144	184	147	164	196	215	178	141	133	139	142	134	127	122	123	116	121	116	110	112	107	143	1
17	✓	✓	✓	129	143	171	166	150	161	198	185	162	148	175	171	177	176	164	161	146	136	133	154	164	197	204	209	166	0
18	✓	✓	✓	229	262	264	263	291	335	302	289	307	301	267	227	197	190	(180	169)	159	139	138	147	134	135	141	172	218	0
19	✓			202	232	233	263	255	271	297	290	302	229	182	168	156	155	143	135	145	141	134	120	122	119	125	96	188	1
20	✓	✓	✓	68	120	122	125	120	112	108	106	172	158	155	144	131	127	115	109	102	106	107	143	116	106	108	116	121	0
21	✓	✓	✓	127	123	120	131	118	120	143	164	207	184	168	153	141	168	178	178	163	136	135	129	120	104	91	89	141	0
22	✓	✓	✓	123	113	102	125	135	134	131	146	196	181	172	191	191	166	148	159	164	141	125	133	141	123	119	127	145	0
23	✓	✓	✓	116	120	135	122	133	143	154	170	222	257	253	252	240	255	262	239	198	189	181	166	167	177	154	146	185	0
24	✓	✓		147	154	171	185	198	218	236	242	288	308	299	285	242	225	224	217	204	207	197	180	176	[156	96	62]	205	0
25	✓	✓		[72	73	79	91	112	123	143	175]	234	255	271	251	238	232	(216)	210	208	204	194	178	177	178	171	169	177	0
26	✓	✓	✓	172	185	188	189	170	166	194	180	176	177	200	198	195	189	177	172	152	142	144	135	135	138	166	158	171	0
27	✓	✓		172	182	199	211	159	194	172	163	179	191	168	156	155	144	130	120	104	107	106	95	103	104	108	127	148	0
28	✓	✓	✓	121	154	164	197	201	211	220	240	233	204	187	170	172	151	155	161	154	164	158	163	195	189	208	219	185	0
29	✓	✓	✓	264	271	271	262	239	245	229	220	222	219	200	178	187	183	168	160	155	156	174	170	212	188	211	238	209	0
30	✓	✓	✓	251	238	260	250	259	281	301	279	283	282	263	253	219	209	198	189	195	176	164	153	145	159	177	188	224	0
31	✓			198	208	229	240	249	273	298	321	288	273	250	227	206	176	177	184	194	161	133	115	92	80	91	133	200	0
MEANS * 31 DAYS				179	187	197	201	205	212	218	218	238	229	216	207	196	193	186	178	171	162	157	156	156	156	161	169	190	
MEANS † 26 DAYS				175	179	188	190	193	204	209	208	229	224	216	210	200	194	188	182	172	163	158	159	161	161	167	175	188	
MEANS ‡ 17 DAYS				184	192	198	198	197	206	211	208	220	215	210	204	196	192	186	179	170	161	158	162	162	161	167	177	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 85

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	71	65	79	81	85	81	92	95	92	87	73	83	81	142	101	77		0
2	✓	✓	✓	73	81	69	73	77	69	61	65	69	77	89	81	81	81	81	85	89	69	49	65	67	65	69	81	74	0
3	✓	✓	✓	71	74	81	79	69	69	61	59	56	69	85	81	81	77	77	77	77	73	56	69	101	94	79	73	74	0
4	✓	✓	✓	73	81	92	105	110	97	69	63	61	73	65	73	77	77	73	81	85	83	61	67	63	61	50	49	75	0
5	✓	✓	✓	47	45	47	56	59	61	56	59	69	71	[81]	77	89	89	85	85	89	97	89	73	77	85	92	97	74	0
6			≷	Z	Z	Z	Z	213	196	99	178	148	144	132	114	110	114	110	121	117	117	119	101	97	101	110	121		1
7	✓	✓	≷	114	110	97	101	110	99	94	134	121	114	N 94	114	110	110	114	77	110	110	73	117	95	117	139	119	108	1
8	✓	✓		134	⌈154	105	50	32	36	26	81⌋	117	116	110	105	94	97	101	105	105	101	101	83	77	63	61	59	88	0
9				63	59	63	73	83	79	77	87	101	94	94	≷ Z	Z	Z	Z	Z	Z	N 63	Z	Z	Z	Z	N 2	Z ≷		2
10			≷	Z	Z	Z	176	Z	Z	Z	N126	Z	Z	Z	Z	Z	N101	Z	162 ≷	130	128	114	101	103	112	117	126		2
11	✓	✓	≷	121	132	152	110	134	105	110	146 ≷	134	130	114	114	110	114	110	117	116	112	101	95	83	103	94	94	115	0
12				87	83	77	65	65	53	45	59	69	92	[95]	87	≷ 74	79	Z	87	79	85	92	87	94	110 ≷	150	142		1
13	✓	✓	✓	142	146	126	134	126	121	117	110	117	114	114	94	97	97	94	89	110	114	101	89	94	97	101	105	110	0
14	✓			117	97	97	110	110	110	89	89	97	89	99	89	81	95	79	87	89	87	97	99	101	105	105	105	97	0
15	✓	✓		⌈138	144	173	180	154	162	157⌋	105	94	105	101	105	101	97	89	95	99	89	85	138	142	142	152	152	125	0
16	✓	✓	✓	144	123	128	116	126	95	123	121	97	99	110	94	94	105	97	94	116	94	74	85	107	138	134	154	111	0
17	✓	✓		⌈157	162	166	130	105⌋	89	89	89	77	65	69	89	85	94	94	101	101	101	94	103	101	99	101	105	103	0
18	✓	✓	✓	114	117	126	114	101	85	77	67	65	69	67	71	77	79	81	81	89	85	65	77	97	101	99	83	87	0
19	✓	✓	✓	69	81	79	67	67	67	63	69	83	74	[79]	74	79	83	94	99	74	65	83	97	85	77	73	65	77	0
20	✓	✓		81	81	77	89	85	61	61	65	69	85	101	97	101	110	105	105	117	119	121	119	⌈128	156	152	166⌋	102	0
21	✓	✓		⌈176	162	170	157	186⌋	117	114	121	114	101	110	110	97	105	110	136	117	130	121	110	114	101	101	101	124	0
22	✓	✓	✓	97	97	89	81	89	112	116	112	95	92	95	99	99	112	117	114	112	107	117	103	73	71	81	69	98	0
23	✓	✓	✓	51	51	59	89	92	110	89	65	71	81	71	89	99	110	81	77	65	81	85	117	97	99	89	85	83	0
24				73	61	61	61	65	49	51	59	65	49	89	77	89	81	97 ≷	Z	Z	162	Z	Z	Z	Z	Z	Z ≷		2
25			≷	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z ≷	112	134	121	134	121	121	121	121	126	126	94		2
26				77	65	65	[56]	—	—	—	—	—	83	[83]	83	81	87	101	97	101	101	101	97	94	101	101	101		0
27	✓	✓		94	110	126	94	85	103	139	110	95	107	112	114	112	107	123	126	134	138	89	105	⌈150	164	142	144⌋	118	0
28	✓	✓		⌈160	160	192	189	182	150⌋	101	73	65	61	69	65	65	77	89	77	81	77	49	59	74	89	85	89	99	0
29				85	74	77	74	69	59	45	51	53	59	45	61	69	77	85	81	85	83	81	69 ≷	Z	Z	N 74 ≷	81		1
30	✓	✓		83	73	67	59	47	55	43	63	56	56	63	79	87	87	95	95	119	103	95	110	112	123	⌈184	144⌋	87	0
31																													
MEANS * 21 DAYS				107	109	110	104	102	94	88	89	87	88	90	91	91	95	95	95	100	97	86	94	97	102	104	102	97	
MEANS † 20 DAYS				107	109	111	104	102	93	88	89	86	88	90	91	92	95	96	96	100	97	85	94	97	102	104	102	97	
MEANS ‡ 10 DAYS				88	90	90	91	92	89	83	79	78	82	86	83	87	91	88	88	91	87	78	84	86	89	87	86	86	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 86

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	752.6	15.0	37	20.7	1.8			E	1	ENE	11	ENE	8	E	3		0		0	Hazy at 9^h
2	750.4	15.2	38	21.8	3.6			ENE	4	NNE	5	NNE	3	..	0		0		0	Hazy at 9^h
3	748.8	15.6	35	23.3	0.9			..	0	NNE	1	ENE	3	SE	1		0		0	Dew early
4	747.0	18.0	26	25.3	1.7			SSE	1	NNE	2	N	5	NNW	1		0		0	Hazy at 9^h
5	743.4	19.2	18	26.6	3.5			NW	1	W	8	N	14	NW	10	ASt; ACu	1- 3	ASt; ACu	4- 8	Overcast in evening; rain at night
6	740.0	17.2	68	20.7	11.3	0.23		W	13	NNW	8	WNW	17	NW	1	Cu; CuNb	5- 8	Cu; CuNb	7- 8	Hazy at 9^h; rain at night
7	741.0	15.6	79	20.5	9.8	0.04		..	0	WNW	3	W	12	NW	1	Cu; CuNb	7-10	Cu; CuNb	7-10	Occasional showers
8	741.8	15.9	75	20.6	7.6	0.05		WNW	2	WSW	4	W	7	..	0	Cu; CuNb	7- 9	Cu; CuNb	7- 8	Rain in early hours or late previous evening
9	734.9	14.4	79	18.5	6.0	T		NW	1	NNW	15	WNW	20	WSW	4	ACu; Cu; FrCu; CuNb	7-10	ACu; Cu; FrCu; CuNb	7-10	Rain after 11^h
10	735.3	7.7	89	11.2	5.6	0.90		SW	1	..	0	S	8	WSW	1	Cu; Nb	7-10	Cu; Nb	10- 4	Rain in am; almost cloudless at 21^h
11	744.1	13.6	81	18.4	4.2	0.19		WSW	1	NW	1	SW	2	SW	1	Cu; CuNb	7-10	Cu; CuNb	7-10	
12	745.4	14.7	72	18.2	3.7			..	0	..	0	SW	7	S	7	Cu; FrCu; CuNb	5- 8	Cu; Fr; CuNb	7-10	Dew early; rain at intervals in pm and night
13	750.3	10.1	52	15.1	3.3	0.03		SSE	5	SE	6	SSE	7	SSW	3	ACu; ASt	1- 6	ACu; ASt	4- 6	Hazy at 9^h; clear at night
14	750.7	10.8	67	18.4	1.1			SSW	1	..	0	SSW	12	SW	2	ACu; ASt	7-10	Cu; CuNb	7-10	Light rain early pm and at 18^h; nearly cloudless at 20^h5
15	750.6	10.3	62	17.6	2.8	0.01		SSW	3	SSE	8	ESE	5	WSW	4	Cu	1- 3		0	Heavy dew early; hazy all day; clear at night
16	749.9	11.8	65	18.4	1.5			S	1	SE	7	SE	6	SSW	3	StCu	0- 1	FrCu	1- 6	Heavy dew early; very hazy all day; clear in evening
17	751.1	13.3	67	20.7	5.7			SSE	2	E	8	V	5	SSE	4	ACu; ASt; StCu	0- 1	ACu; ASt; StCu	0- 1	Heavy dew early; clear in evening
18	750.7	18.2	38	23.9	5.1			SSE	3	E	1	ENE	8	SE	2		0		0	Dew early
19	748.5	18.9	26	28.3	6.8			..	0	NE	6	N	4	SW	5		0	Cu	0- 1	Fire in NW all day; few clouds in evening
20	743.3	22.6	30	27.9	5.3			..	0	..	0	SW	7	SW	3	CiCu; CiSt	4- 6	CiCu; CiSt	4- 6	
21	744.0	17.3	68	21.7	8.6			SW	1	SSW	1	SW	15	SW	2	CuNb	7-10	CuNb	7- 8	Dew or fog early
22	743.6	14.5	66	25.6	3.8			SSW	2	E	8	NNE	4	..	0	CiSt	0- 1		0	Dew or fog early; fire in NW in pm
23	738.5	16.2	76	20.6	4.5			NNE	1	NNW	5	W	8	W	1	ACu; Cu; CuNb	7-10	ACu; Cu; CuNb	7-10	Dew or fog early; few light showers
24	738.7	15.3	76	20.4	6.5			..	0	W	6	NW	15	W	14	Nb; CuNb	7-10	CuNb; Nb	7-10	Shower at 9^h2; showers in pm and evening
25	740.9	9.5	91	17.4	7.1	0.52		W	10	WSW	6	WSW	19	SW	2	ACu; Cu; Nb	9-10	Cu; CuNb	7- 8	Showers early and during am; clear in evening
26	748.9	14.7	63	20.0	5.0	0.04		SW	2	..	0	S	7	WSW	3	St; Nb	7-10	Cu; CuNb	4- 6	Clear in evening
27	749.4	15.0	64	22.2	4.0			S	2	SE	11	SE	3	S	5	FrCu	0- 1		0	Dew early
28	747.5	19.1	46	28.2	5.7			S	2	E	4	NE	2	SSE	4		0	CiSt	0- 1	Dew early; cloudy with CiSt in evening
29	744.3	23.5	33	31.7	10.1			SSE	2	NNE	4	V	1	E	1	CiCu; CiSt; ACu	6- 8	ACu; CiSt; Ci; Nb	7- 8	Threatening in evening, with lightning at 20^h
30	738.6	23.6	38	23.9	13.2			N	2	NW	7	W	17	SW	2	CiCu; CiSt; ACu	7-10	CuNb	7-10	Light misty rain at 20^h7
31																				
SUM						2.01														
MEAN	745.1	15.6	58	21.6	5.3				2.1		4.9		8.4		3.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 87

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			221	221	246	267	274	302	305	318	287	285	235	210	211	(209	203	199)	210	216	222	219	185	147	211	244	235	0
2	✓	✓	✓	281	283	295	294	301	308	327	333	299	246	223	213	208	208	211	211	222	227	234	234	234	253	234	233	255	0
3	✓	✓	✓	240	249	268	287	302	314	319	339	327	305	227	208	209	205	201	201	204	215	204	191	173	205	260	256	246	0
4	✓	✓	✓	249	250	240	244	236	262	308	348	358	305	291	228	216	201	199	193	196	199	209	219	221	259	278	318	251	0
5	✓	✓	✓	327	330	337	336	329	335	368	373	309	249	211	184	183	168	160	162	164	171	187	193	197	198	184	174	243	0
6	✓			} 159	150	83	135 }	149	148	160	157	149	135	134	127	134	129	134	143	139	146	149	158	169	184	182	188	148	1
7	✓	✓		163	198	209	211	209	221	221	208	194	172	157	155	148	152	148	142	154	159	138	146	162	172	167	159	174	1
8	✓	✓		158	152	153	163	173	183	198	199	177	167	160	162	169	(168	162)	160	164	167	172	197	204	214	258	278	182	0
9				290	315	323	304	309	336	337	279	217	185	163 }	134	126	119	160	121	174	162	98	105	106	105	137	159 }		2
10				} 148	100	169	188	105	121	162	193	134	158	133	138	117	183	178 }	188	184	184	197	199	214	214	222	226		2
11	✓	✓		235	232	222	225	208	232	240	216	211	201	193	193	183	188	189	185	182	189	194	193	201	220	241	246	209	0
12	✓			247	267	301	330	330	347	386	389	317	234	198	196	184	182	169	173	172	176	172	182	172	148	147	150	232	1
13	✓	✓	✓	144	149	157	172	191	197	209	220	201	187	182	169	159	159	183	166	126	112	144	171	179	188	194	198	173	0
14				184	184	197	185	188	193	221	232	223	221	209	196	184	183	179	174	187	185	188	182	187	196	199	181		0
15	✓	✓		169	173	166	146	147	133	146	197	205	192	197	194	184	(179	177)	178	160	177	197	121	125	144	158	169	168	0
16	✓	✓	✓	172	174	179	177	172	194	162	184	196	187	182	176	178	172	178	181	183	188	196	194	189	166	162	157	179	0
17	✓	✓		155	146	149	187	235	257	262	285	309	315	302	257	235	220	214	209	198	193	188	194	208	214	220	221	224	0
18	✓	✓	✓	220	222	209	217	234	251	265	320	339	303	259	233	213	220	187	192	193	194	208	204	173	173	202	238	228	0
19	✓	✓	✓	283	282	315	337	345	340	341	333	279	274	239	234	229	214	201	197	184	191	193	196	209	220	227	238	254	0
20	✓	✓		237	238	270	268	256	294	338	339	332	267	220	196	184	179	185	178	159	163	171	177	164	158	148	149	220	0
21	✓	✓		146	140	137	⌈ 126	96 ⌋	184	205	220	188	184	172	169	162	157	157	157	154	159	159	168	171	187	199	201	167	0
22	✓	✓	✓	209	209	219	219	193	159	187	187	216	228	233	226	227	(209	196)	197	198	187	159	172	199	185	188	257	202	0
23	✓	✓	✓	299	329	301	257	244	251	278	271	261	222	174	162	159	(162	153)	139	138	142	143	158	169	193	197	221	209	0
24	✓			261	318	328	302	285	349	350	282	241	228	174	159	149	159	149	148	} 123 }	149	147	} 86	130	108	105	100 }	201	2
25				126	118	123	147	134	148	140	159	105	142	154	157	148	143	139	146	144	148	154	160	169	179	187	185		2
26				187	194	201	209	220	217	221	244	219	193	184	182	176	173	176	174	178	178	173	185	197	201	209	220		0
27	✓	✓		223	221	209	240	247	⌈ 172	158	210 ⌋	213	182	158	150	147	146	129	123	123	126	142	135	116	130	144	135	166	0
28	✓	✓		137	147	133	131	131	157	228	319	350	320	287	272	268	247	233	219	210	221	225	226	201	181	210	223	220	0
29	✓			244	265	263	281	294	309	340	358	332	266	269	260	237	(219	197)	213	210	211	216	} 222	(241	252	259)	252 }	259	1
30	✓	✓		256	268	303	321	322	333	350	266	220	197	172	138	126	135	133	138	139	147	158	166	162	162	172	172	206	0
31																													
MEANS * 25 DAYS				218	225	228	235	236	249	266	275	260	234	210	195	188	183	178	176	172	177	181	181	182	186	198	207	210	
MEANS † 20 DAYS				216	220	224	228	229	239	256	268	259	235	212	196	189	184	180	176	173	176	181	183	183	191	202	212	209	
MEANS ‡ 10 DAYS				242	248	252	254	255	261	276	291	278	251	222	203	198	192	187	184	181	183	188	193	194	204	213	229	224	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION } }=DISTURBED BY BAD WEATHER

TABLE 88

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			168	177	195	217	228	240	268	283	281	278	220	199	201	205	(201	196)	192	187	180	170	146	97	178	231	206	0
2	✓	✓	✓	254	251	251	262	240	260	294	291	269	234	203	190	194	192	192	193	184	180	200	194	188	207	205	194	222	0
3	✓	✓	✓	217	226	228	262	273	290	293	293	302	280	213	203	191	193	187	182	179	177	170	141	130	158	218	226	218	0
4	✓	✓	✓	215	211	200	194	191	215	273	290	335	295	276	216	211	203	194	191	184	170	192	159	198	227	260	286	224	0
5	✓	✓	✓	328	339	347	340	336	336	370	351	296	251	215	192	184	167	161	157	159	155	155	171	181	185	169	153	237	0
6	✓			147	134	182	134	96	94	110	110	122	114	125	123	130	130	130	131	123	117	111	103	110	126	134	132	124	1
7	✓	✓		141	104	139	146	139	157	165	158	159	145	142	139	140	141	136	128	126	131	123	111	115	132	127	132	136	1
8	✓	✓		123	100	95	99	114	108	149	156	139	132	132	140	145	142	(135	131)	127	125	116	127	148	180	204	230	137	0
9				240	281	293	262	264	305	312	254	201	167	156	—	—	—	—	—	155	136	199	159	157	169	133	114		2
10				139	86	42	54	71	105	80	101	119	68	—	164	99	147	147	135	142	130	100	105	119	124	137	130		2
11	✓	✓		139	135	115	143	114	123	174	167	165	146	145	155	147	157	157	142	137	123	121	115	124	136	167	174	143	0
12	✓			193	206	239	306	304	324	365	311	273	203	171	170	159	155	155	146	143	137	128	124	134	122	101	96	194	1
13	✓	✓	✓	99	99	114	114	131	132	133	169	170	168	165	158	153	154	169	150	106	96	115	134	134	135	139	141	137	0
14				—	—	—	—	—	—	—	—	—	176	165	170	158	162	156	146	148	—	—	—	—	125	124	111		0
15	✓	✓		96	103	89	88	99	80	88	159	184	169	173	174	162	158	(167	161)	137	149	152	90	90	100	90	86	127	0
16	✓	✓	✓	94	113	105	123	106	130	110	141	179	167	155	161	168	158	165	168	153	134	146	143	128	111	117	110	137	0
17	✓	✓		99	85	87	124	179	205	211	261	289	304	298	252	230	203	203	194	174	157	137	142	153	155	157	156	186	0
18	✓	✓	✓	159	158	156	170	192	214	223	278	318	286	252	232	210	218	181	185	169	164	180	152	122	133	161	193	196	0
19	✓	✓	✓	227	224	240	294	315	319	305	295	270	262	226	230	227	205	192	180	177	163	148	152	167	180	190	210	225	0
20	✓	✓		191	201	222	217	220	233	271	260	280	239	205	182	169	168	165	157	136	134	122	125	117	100	113	116	181	0
21	✓	✓		103	97	77	[72	64]	131	148	162	158	148	153	146	147	146	142	134	127	122	108	94	95	125	127	127	123	0
22	✓	✓	✓	147	157	168	158	158	118	110	149	201	207	213	204	202	192	(177	167)	171	155	122	123	134	157	156	227	166	0
23	✓	✓	✓	274	271	266	215	205	210	215	239	238	210	158	146	133	143	132	116	116	116	116	103	103	134	136	169	174	0
24	✓			206	238	268	260	232	326	320	259	238	219	163	145	137	147	137	139	126	117	99	123	126	208	133	153	188	2
25				98	99	110	98	84	76	91	99	98	99	121	131	122	124	122	119	113	117	104	85	88	—	—	—		2
26				—	—	—	—	—	—	—	—	—	164	159	158	167	156	150	149	146	137	123	125	128	134	136	156		0
27	✓	✓		163	150	125	[141	184	136	104	184]	194	171	145	135	130	130	110	107	106	100	108	111	88	90	95	76	128	0
28	✓	✓		76	89	65	68	77	100	180	294	340	327	294	283	269	238	208	199	180	171	208	180	162	150	177	180	188	0
29	✓			193	217	230	247	253	282	306	325	329	269	279	260	236	215	(199	185)	171	172	176	171	(180	190	192)	192	228	1
30	✓	✓		201	230	260	291	313	313	329	252	215	194	174	134	121	126	122	121	115	117	123	111	100	110	113	110	179	0
31																													
MEANS * 25 DAYS				170	173	179	187	191	203	221	233	238	217	196	183	176	171	165	158	149	143	142	135	135	146	154	164	176	
MEANS † 20 DAYS				167	167	167	176	182	190	207	227	235	217	197	184	177	172	165	158	148	142	143	134	134	145	156	165	173	
MEANS ‡ 10 DAYS				201	205	208	213	215	222	233	250	258	236	208	193	187	182	175	169	160	151	154	147	148	163	175	191	194	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 89

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	103	85	114	114	101	85	96	99	94	77	85	81	89	101	114	97	121	118	121	110	114	121	126	121	104	0
2	✓	✓	✓	134	142	110	118	105	94	85	94	87	92	105	118	99	97	110	99	101	107	101	96	89	89	85	81	102	0
3	✓	✓		69	65	77	85	74	47	53	71	73	94	[81]	65	77	83	81	94	92	94	N 81	96	81	97	107	105	81	1
4	✓	✓		114	107	112	101	79	67	85	118	94	101	N 26	73	99	110	101	97	105	97	103	89	89	83	97	85	93	1
5	✓			65	63	65	73	65	45	59	77	105	99	97	89	101	85	77	97	101	126	118	110	121	118	101	77	89	0
6	✓	✓	✓	71	74	67	69	83	56	71	85	(89	94)	97	94	101	101	114	101	105	116	112	101	103	110	107	96	92	0
7	✓	✓	✓	81	87	101	96	74	51	53	77	79	81	79	85	79	74	81	81	77	85	89	101	121	121	121	121	87	0
8				[142	105	166	118	121	94	114	110]	63	85		79	83	87	87	89	94	85	89	97	114	118	114	94		0
9	✓	✓	✓	81	105	118	121	118	105	101	101	97	101	101	99	96	96	89	99	116	110	118	118	121	130	130	142	109	0
10	✓	✓	✓	142	134	138	118	89	101	103	99	96	101	[99]	97	103	101	(97	105)	97	89	89	85	81	71	71	83	100	0
11				83	92	79	[177	200	126	92]	83	Z	Z	N 99	99	Z	Z	71	73	74	79	Z	103	110	Z	Z	Z		1
12	✓	✓	✓	132	126	123	119	110	101	94	94	85	77	85	77	73	73	73	77	77	89	97	89	89	89	89	89	93	0
13	✓	✓	✓	97	94	97	101	101	85	94	89	77	81	85	77	77	77	81	89	97	81	85	89	85	85	94	69	87	0
14	✓	✓	✓	61	65	56	65	56	53	61	73	81	85	85	89	85	89	89	87	96	99	87	89	94	89	97	97	80	0
15				89	89	94	105	114	85	105	87	85	81	63	Z	Z	77	81	77	85	87	89	99	101	101	110	85		1
16				—	—	—	—	—	—	—	—	94	97	94	103	97	103	110	105	121	121	103	105	110	107	103	101		0
17	✓	✓	✓	92	89	99	101	96	89	89	89	77	85	[77]	69	81	89	85	85	89	101	101	103	99	101	101	99	91	0
18	✓	✓	✓	99	92	85	67	61	63	77	71	92	97	96	97	94	94	94	94	94	97	101	103	101	79	105	101	90	0
19	✓	✓		89	110	81	110	40	36	61	97	89	83	74	69	79	79	[89]	99	99	97	101	101	110	118	114	114	89	1
20	✓	✓		[121	150	142	130	121	101	81]	56	53	56	63	67	73	83	71	79	[81	89]	77	77	97	116	118	110	92	0
21	✓			97	79	67	67	65	51	49	47	53	59	56	56	[69	83	83	89	103	97	87]	(87	89	92)	94	77	75	0
22	✓	✓	✓	81	56	61	69	71	53	63	61	77	81	73	71	67	71	77	79	85	85	85	83	89	107	105	105	77	0
23	✓	✓		130	128	126	121	123	239	207	144	85	94	96	101	92	85	101	107	97	105	112	112	118	112	107	85	118	0
24	✓			89	69	49	18	16	14	47	71	77	81	[85]	89	85	94	101	94	101	101	94	(101	94)	89	85	77	76	0
25				—	—	—	—	—	—	110	77	69	65	—	—	81	81	85	89	99	87	94	89	89	77	69	65		0
26	✓	✓		65	69	73	69	61	49	61	65	118	74	73	79	79	85	81	83	92	87	101	103	110	101	87	74	81	0
27	✓	✓		92	87	94	96	81	89	97	94	81	89	61	73	73	77	81	97	81	81	81	85	81	89	97	97	86	1
28	✓	✓		110	205	138	N114	130	110	94	85	77	69	77	69	73	69	73	77	81	81	81	85	97	89	85	89	94	1
29				85	—	—	—	—	—	—	—	69	71	77	81	83	92	92	89	96	92	94	105	114	121	110	—		0
30				—	—	—	—	—	—	—	77	77	79	85	96	96	94	92	97	92	89	81	85	87	94	110	110		0
31	✓	✓	✓	121	123	126	136	132	128	99	77	81	81	[77]	65	69	69	69	69	73	71	81	94	103	118	123	138	97	0
MEANS * 24 DAYS				97	100	97	95	86	80	82	85	84	85	81	81	84	86	88	91	94	96	96	96	99	101	102	97	91	
MEANS † 21 DAYS				99	104	102	101	91	86	87	88	85	85	81	82	84	86	88	90	93	94	95	96	99	101	103	100	92	
MEANS ‡ 13 DAYS				100	98	100	100	92	82	84	85	86	87	88	86	86	87	90	89	94	96	97	97	99	101	104	103	93	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 90

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	743.3	14.7	80	20.7	9.1	T		..	0	SW	5	SSW	7	S	4	ACu; CuNb; Nb	10	Cu	7- 8	Drizzling rain at intervals in am; clear in evening
2	744.9	14.2	53	21.8	3.8	T		..	0	ESE	4	W	4	S	2	Cu; ACu; StCu	0- 1	Cu; ACu; StCu	0- 1	Hazy at 9h
3	741.2	16.4	54	20.3	2.9			SSW	1	..	0	W	12	..	0	ACu; ASt; Cu	1-10	Cu; CuNb	7-10	Dew early; two brief rains in pm and one at 18h
4	742.5	15.9	63	20.5	6.9	0.03		WSW	1	SSW	4	SW	14	SSW	1	Cu; CuNb	9-10	ACu; Cu; CuNb	9-10	Mist or heavy dew early; rain in early pm; clear in evening
5	740.3	16.9	58	20.8	3.6	0.01		..	0	NW	8	W	22	SW	4	Cu; FrCu; CuNb	7-10	CuNb; Nb	7-10	Dew and perhaps fog in am; showers at intervals
6	742.5	16.6	52	20.6	6.7	0.02		..	0	WNW	4	W	12	WNW	1	ACu; ASt	7-10	ACu; ASt	7-10	Hazy at 9h; nearly clear in evening
7	742.4	17.3	53	22.4	7.8			WNW	1	W	6	W	8	SSW	3	ACu; ASt; CuNb	10	ACu; Cu	7- 8	Dew early; clear in evening
8	743.0	13.9	93	20.1	5.3	0.01		..	0	NNE	1	SW	8	S	4	CuNb; Nb	10	CuNb; Nb	10	Heavy fog early; light rains in am
9	744.5	13.4	51	22.2	3.7	0.04		S	3	ESE	8	SSW	2	S	4	StCu; FrCu	0- 1		0	Dew early; hazy at 9h; clear in evening
10	739.3	14.2	59	23.5	1.7			S	2	SE	1	W	5	W	2	Cu	0- 1	Cu	0- 1	Dew early; clouding over in evening
11	731.6	15.0	96	18.9	9.9	0.11		NW	5	W	17	SW	23	SSW	7	Nb	10	Nb	10	Showers at frequent intervals; clearing in evening
12	743.5	11.5	47	17.6	2.7	0.04		SSW	5	SSE	14	SSE	8	SSW	3	FrCu; Cu	1- 3	FrCu; Cu	1- 3	Clear in evening
13	746.7	14.0	55	21.2	3.3			S	1	ESE	2	V	2	SSW	4	FrCu; Cu; StCu	1- 3	FrCu; Cu; StCu	1- 3	Dew early; hazy at 9h
14	744.4	15.6	52	23.0	4.3			..	0	V	1	W	8	SW	4	CiSt; CiCu; ACu; Cu	1- 6	CiSt; CiCu; ACu; Cu	1- 6	Overcast in evening
15	740.7	17.2	60	19.1	8.4	T		NNW	1	W	10	WSW	22	SW	6	Cu; CuNb	7-10	Cu; CuNb	7-10	Rain at intervals
16	747.3	12.8	56	19.1	3.6	0.05		SW	2	SSE	8	SSE	8	S	5	Cu; FrCu	4- 6	Cu; FrCu	1- 3	
17	747.1	15.8	48	24.4	2.8			S	2	ESE	3	V	2	S	5		0		0	Dew early; hazy at 9h
18	743.7	16.9	60	23.3	2.6			SW	1	V	4	WSW	10	WSW	2	CiSt	7- 8	CiSt	7- 8	Dew early; clearing in evening
19	742.9	14.8	96	22.4	11.4	T		WSW	8	SW	9	SW	8	S	6	Cu; Nb; CiCu	7-10	Cu; CiCu	6- 1	Rain about 9h
20	743.3	19.1	41	29.6	4.8	T		SSW	3	ENE	8	NNE	6	SW	6	CiSt	3- 6	CiSt	4- 6	Air smoky 17h.7 to 18h.5
21	739.1	25.3	26	30.6	9.2			SSE	5	NE	7	W	11	NNW	1	CiCu; CiSt	4- 6	CiCu; CiSt	1- 3	Air smoky in pm; lightning in evening
22	742.6	20.6	54	25.2	7.9			..	0	NW	6	NW	15	NW	6	Cu; FrCu	6- 8	Cu; FrCu	7- 8	Dew, perhaps fog, in am; few clouds in evening
23	742.6	19.6	67	23.1	10.5	0.05		NNW	1	WNW	10	W	16	SW	2	Cu	6- 8	Cu	7- 8	Rain in early hours; clear in evening
24	746.3	18.7	60	25.9	11.6	T		SW	1	SE	4	SSW	3	S	5	Cu; Nb	7- 9	Cu	1- 3	Rain in early hours
25	743.7	21.3	61	28.4	8.9			S	2	E	1	WSW	10	SW	2	CiCu; CiSt; Cu	0- 1	CiSt; CiCu; Cu	0- 1	Dew early; clear in evening
26	742.6	18.3	77	22.2	8.8	0.04		WSW	2	SSW	7	SSW	14	SSW	2	Cu; CuNb	7-10	Cu	4- 6	Rain before 8h and up to 10h; nearly clear in evening
27	740.2	17.3	72	19.9	9.3	T		..	0	WSW	8	WSW	15	W	6	Cu; FrCu; CuNb; Nb	7-10	Cu; FrCu; CuNb; Nb	7-10	Rain about 0h; occasional rains in am
28	739.2	16.1	53	19.2	11.7	0.09		SSW	6	SSW	14	SW	14	SSW	3	Cu; CuNb; Nb	7- 9	Cu; CuNb; Nb	7- 8	Rain in early hours
29	741.3	14.6	52	23.3	2.2			..	0	ENE	4	V	2	SSW	5	Cu; FrCu; StCu	7- 8	Cu; FrCu	1- 3	Dew early; clearing in evening
30	743.9	17.0	56	24.3	5.0			..	0	S	3	SW	7	S	6	CiSt; Cu; FrCu	2- 6	CiSt; Cu; FrCu	7- 8	Dew, perhaps fog, early
31	746.6	19.3	52	28.4	8.7			SSE	9	ESE	13	E	3	S	5	CiSt; CiCu; Cu	3- 6	CiSt; CiCu; Cu	4- 6	Dew early; hazy at 9h; overcast with Ci and CiSt in evening
SUM						0.49														
MEAN	742.7	16.6	60	22.6	6.4				2.0		6.3		9.7		3.7					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 91

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	185	198	159	168	211	233	228	193	177	188	189	183	183	163	162	160	162	163	162	172	174	176	182	183	181	0
2	✓	✓	✓	172	173	188	197	202	217	221	211	213	189	187	183	172	173	174	169	172	171	164	172	185	196	209	223	189	0
3	✓	✓		234	235	233	231	244	311	337	265	221	204	185	174	171	166	171	167	164	169	172	185	196	205	216	213	211	1
4	✓	✓		213	214	221	219	237	255	281	234	176	157	138	150	148	147	149	149	155	159	166	185	192	210	220	253	193	1
5				270	294	309	327	354	382	369	349	231	174	159	146	138	138	137	144	131	127	142	148	159	177	188	209		0
6	✓	✓	✓	211	211	219	234	221	252	256	226	197	173	172	160	158	(157	149)	152	159	154	157	172	182	192	213	234	192	0
7	✓	✓	✓	257	240	197	196	211	252	261	209	185	184	179	171	171	172	164	159	171	168	164	167	171	173	187	196	192	0
8	✓			[188	222	135	174	168	204	238	244]	292}	208	221	201}	173	173	169	164	172	169	173	176	172	179	183	202	192	0
9	✓	✓	✓	217	196	198	196	188	198	204	214	210	182	162	162	179	184	177	155	143	135	123	133	158	163	169	168	176	0
10	✓	✓	✓	152	152	158	171	187	179	187	208	191	199	188	184	173	184	177	158	159	158	157	172	194	226	240	217	182	0
11	✓			219	222	227	207	182	183	182	168	138}	118	138	134	121	138}	152	160	152	154}	149}	160	162	169}	157	149}	164	1
12	✓	✓	✓	160	159	166	174	184	194	194	179	164	171	166	159	159	167	172	166	152	139	121	146	159	173	177	188	166	0
13	✓	✓	✓	193	196	191	192	185	182	184	184	207	207	189	183	182	(171	164)	171	167	158	157	157	162	182	188	226	182	0
14	✓	✓	✓	256	256	290	282	307	314	291	259	225	207	189	172	168	163	159	159	160	130	146	171	174	182	179	196	210	0
15	✓			205	214	229	223	219	215	184	160	155	163	153	135	155	152	150	148	155	146	148	146	148	160	164	163	170	1
16	✓			172	171	173	177	193	221	238	204	185	179	173	172	163	160	154	158	134	137	153	167	171	177	181	187	175	0
17	✓	✓	✓	191	196	188	185	196	208	219	210	197	197	185	193	185	(173	167)	176	174	153	147	158	163	182	189	199	185	0
18	✓	✓	✓	199	215	231	270	256	231	277	292	216	202	179	166	167	157	154	157	159	159	153	173	182	193	179	194	198	0
19	✓	✓		196	185	168	167	162	164	157	149	172	160	149	155	158	154	149	147	149	152	150	157	153	149	158	163	159	1
20	✓	✓		162	155	168	172	179	209	279	347	359	345	310	268	243	(221	205)	209	208	[146]	173	182	162	158	167	183	217	0
21				210	241	256	258	270	290	324	349	301	259	268	246	183	137	147	—	—	89	138	146	160	162	159	171		0
22	✓	✓	✓	178	201	198	155	171	256	259	251	194	159	159	158	150	147	140	139	146	148	148	149	155	172	169	169	174	0
23	✓	✓		185	191	201	214	194	160	177	149	146	146	144	144	148	149	146	(148)	150	149	152	148	146	147	159	162	161	0
24				171	182	187	—	—	—	—	—	—	—	167	162	168	162	154	129	121	140	149	137	160	167	176	172		0
25	✓			157	134	135	137	152	160	174	197	227	235	184	172	171	176	155	147	144	140	147	154	158	176	202	220	169	0
26	✓	✓		232	231	219	222	221	237	217	184	177	166	159	155	148	148	140	140	147	149	148	148	158	182	198	220	181	0
27	✓	✓		192	187	199	196	184	192	209	174	160	171	(166)	160	(157	152	147)	143	147	150	159	160	158	160	162	169	169	1
28	✓	✓		162	157	163	150	150	154	157	155	146	147	149	150	146	148	149	149	152	155	155	162	169	189	204	210	160	1
29	✓			223	234	270	249	268	278	256	234	214	210	192	182	167	160	159	162	164	162	158	160	169	183	189	194	202	0
30	✓			199	221	247	223	223	241	246	225	199	185	176	(169)	160	162	154	158	158	155	152	159	159	162	162	154	185	0
31	✓	✓	✓	139	129	116	113	118	137	158	202	164	163	167	193	202	207	204	203	208	188	158	133	137	142	130	[126]	160	0
MEANS * 28 DAYS				195	196	196	196	200	216	224	212	197	186	177	171	167	165	161	160	160	154	154	162	167	177	183	191	182	
MEANS † 21 DAYS				195	194	194	195	200	216	226	214	195	187	177	173	170	167	163	161	162	155	154	162	168	179	185	195	183	
MEANS ‡ 13 DAYS				193	194	192	195	203	219	226	218	195	186	178	174	173	171	166	163	164	156	151	160	169	181	185	194	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 92

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	110	99	87	101	135	171	165	150	148	145	167	161	158	147	136	135	128	121	110	123	119	116	110	121	132	0
2	✓	✓	✓	99	92	123	107	133	156	159	176	186	159	145	143	156	153	147	147	143	135	126	127	134	141	148	165	142	0
3	✓	✓		188	194	191	164	193	237	239	203	180	155	159	159	157	149	153	157	141	140	134	113	125	145	149	133	165	1
4	✓	✓		124	137	137	146	178	198	222	180	150	130	134	133	137	132	132	125	125	128	121	119	126	146	146	161	144	1
5				207	270	271	273	280	—	—	—	169	155	146	136	128	133	132	125	113	103	107	107	100	101	122	157		0
6	✓	✓	✓	[162	139	164	159	149	(184	199	203]	185	{164	156	146}	146	146	(139	132)	127	122	115	110	122	132	155	180	152	0
7	✓	✓	✓	200	198	146	140	162	193	213	172	162	158	155	157	157	154	154	149	146	134	119	114	104	110	111	121	151	0
8	✓			106	111	88	134	140	170	200	233	262	180	148	191	156	148	146	145	134	135	136	134	119	92	111	125	148	0
9	✓	✓	✓	125	130	133	133	123	115	142	191	194	170	149	152	167	170	159	134	121	116	105	113	113	117	107	107	137	0
10	✓	✓	✓	101	110	100	121	127	136	128	147	157	155	157	169	171	177	176	146	142	135	128	126	145	179	203	177	146	0
11	✓			186	181	195	152	130	142	153	148	139	{161	125	123	125	133}	133	137	125	131	{121}	125	117	122	{134	107}	139	1
12	✓	✓	✓	100	117	108	114	116	126	142	148	145	147	152	162	158	161	171	155	135	115	104	124	121	123	125	136	134	0
13	✓	✓	✓	136	135	134	146	136	147	130	158	186	178	170	171	167	158	(156	153)	148	140	133	132	133	128	134	169	149	0
14	✓	✓	✓	180	202	184	230	285	295	247	219	188	172	168	159	161	158	148	142	134	114	113	123	127	131	134	139	173	0
15	✓			149	164	168	161	146	159	145	133	140	155	141	142	147	142	140	134	133	119	122	111	104	114	121	114	138	1
16	✓			122	108	98	105	114	136	143	172	159	150	157	155	157	148	135	136	111	108	123	123	132	135	135	133	133	0
17	✓	✓	✓	134	141	131	124	142	153	155	184	178	170	170	171	167	(164	159)	157	146	127	123	123	128	126	119	132	147	0
18	✓	✓	✓	134	145	158	203	226	223	249	258	187	164	167	157	157	158	147	143	137	123	114	113	123	142	136	134	162	0
19	✓	✓		147	134	136	118	113	124	123	122	149	149	140	141	146	146	139	135	130	126	114	116	113	113	106	99	128	1
20	✓	✓		92	76	98	108	123	156	236	335	355	346	314	258	230	213	(202	188)	182	[135]	158	156	134	128	130	139	187	0
21				169	205	217	228	240	264	298	342	301	262	280	263	186	134	145	—	—	87	114	113	108	—	—	133		0
22	✓	✓	✓	143	165	157	116	145	234	213	226	179	149	152	149	147	146	136	142	134	133	133	127	131	124	119	119	151	0
23	✓	✓		115	142	143	133	123	88	105	123	133	131	128	132	135	130	127	(125)	123	122	116	104	97	103	111	123	121	0
24				121	122	122	123	119	124	126	141	—	—	148	148	153	147	137	116	100	121	123	103	122	132	134	114		0
25	✓			106	91	88	88	95	108	124	173	201	203	170	169	169	170	154	134	122	122	111	113	103	123	148	171	136	0
26	✓	✓		172	172	167	173	182	203	198	157	156	157	154	150	145	139	134	133	123	115	113	98	86	114	142	162	148	0
27	✓	✓		110	134	133	121	128	135	158	147	136	146	146	156	149	135	(130	123)	124	123	130	126	131	133	127	135	134	1
28	✓	✓		130	103	114	111	111	113	123	125	123	126	133	134	130	139	135	134	125	123	121	111	113	125	139	150	125	1
29	✓			155	187	204	190	207	257	190	203	192	180	178	174	165	157	147	152	152	142	133	124	123	121	118	123	166	0
30	✓			130	147	174	157	171	191	181	187	178	168	162	162	157	157	148	147	146	136	133	132	134	136	126	122	153	0
31	✓	✓	✓	105	103	97	91	88	86	131	201	157	155	153	187	203	196	195	188	181	173	137	117	114	104	99	[95]	140	0
MEANS * 28 DAYS				134	138	138	137	147	166	172	181	175	165	159	159	158	155	149	144	136	128	123	121	120	126	130	135	146	
MEANS † 21 DAYS				134	137	135	136	148	165	175	182	173	163	160	159	159	156	151	145	138	129	122	120	121	128	131	138	146	
MEANS ‡ 13 DAYS				133	137	132	137	151	171	175	187	173	160	159	160	163	161	156	148	140	130	120	121	124	129	131	138	147	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 93

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				[151	145	153	149]	—	—	—	—	59	54	56	67	63	71	69	76	71	63	78	88	78	{123}	67	Z		1
2				69	76	{Z	Z	Z}	71	59	73	65	73	52	65	{Z	Z}	69	78	71	{Z	39}	59	59	73	78	82		1
3				65	76	69	65	56	48	46	41	39	44	50	54	59	69	65	73	73	97	78	97	{Z	Z}	109	97		1
4				{Z	Z	135	144	Z	Z	Z	135}	67	67	76	73	84	84	88	88	97	103	93	97	106	119	126	115		2
5	✓	✓	✓	117	105	111	135	145	115	105	95	88	88	88	84	101	97	105	(105	103)	103	106	109	109	126	121	105	107	0
6	✓	✓		[129	149	165	151	153	174	186	137]	121	126	117	127	117	111	111	123	105	111	109	109	119	139	153	165	134	0
7	✓	✓		149	144	[190	204	183	165	103]	84	76	76	80	88	82	86	90	93	97	105	109	117	[133	145	172	[76]	119	0
8	✓	✓		[67	50	69]	82	67	50	67	63	65	56	61	61	67	73	73	78	78	86	90	93	[93	93]	97	97	74	0
9				{—	—	—	—	—	—	—	—	101	105	113	101	105	105	106	106	106	86	82	99	97	93	121	97}		0
10	✓	✓		{69	69	50	82	95	123	82	61	46	N 23}	59	63	67	76	84	105	101	110	[126	133	153	161]	126	117	91	1
11	✓	✓	✓	113	117	113	105	93	73	78	71	67	63	67	67	76	71	84	84	103	86	95	127	147	147	139	135	97	0
12				—	—	—	—	—	—	—	95	106	97	95	95	103	101	99	106	105	97	115	119	126	93	—	—		0
13				—	—	—	—	—	—	—	65	84	61	69	78	93	84	97	93	115	111	93	99	99	93	84	90		0
14	✓	✓		73	71	65	90	123	123	69	90	106	{105	105}	111	109	126	133	135	137	133	135	129	129	113	105	105	109	0
15				—	—	—	—	—	—	—	63	88	82	93	95	111	113	113	127	147	147	137	151	153	145	126	105		0
16				—	—	—	—	—	—	113	113	106	101	95	84	97	109	123	117	131	121	139	144	149	139	137	133		0
17	✓	✓		117	[123	159	161	129]	97	88	84	80	80	86	93	99	105	123	115	115	115	126	[133	169	157	179	188]	122	0
18	✓	✓		[195	149]	106	105	90	86	76	71	73	78	84	103	105	109	109	109	109	101	105	105	109	[126	179	153]	110	0
19	✓	✓		[167	119]	97	93	101	76	63	67	71	[84]	84	78	76	84	84	93	88	97	105	105	95	84	76	86	91	0
20	✓	✓	✓	99	99	105	95	76	71	67	67	63	67	76	67	76	80	80	80	82	90	93	93	82	73	67	61	80	0
21	✓	✓	✓	61	61	59	65	59	52	52	50	54	54	[59	63]	63	67	71	71	80	82	86	88	105	95	106	105	71	0
22	✓	✓	✓	99	109	111	106	97	86	80	80	73	61	65	69	82	90	84	82	88	86	88	71	76	80	84	97	85	0
23				97	105	105	93	88	84	76	84	80	76	{N 50	67	71	71	80	75}	{Z	Z	Z	95	Z	61	Z	52}		1
24				69	69	65	61	63	67	69	67	71	71	65	59	{-14	59	N 50	Z	63	Z	N 54	Z	216}	129	101	129		1
25	✓	✓		117	[113	99	80	76	84	105]	126	105	93	93	84	88	90	103	126	117	121	121	129	133	133	129	137	108	0
26	✓	✓		126	142	[177	169]	133	121	117	105	88	90	78	82	84	86	80	80	88	95	101	109	111	117	126	129	110	0
27	✓	✓	✓	127	129	133	135	145	159	157	151	127	111	106	103	103	103	117	127	115	115	113	126	135	133	137	147	127	0
28				151	[183	206	227	222	193	117]	82	73	67	[63]	71	—	—	—	—	—	84	97	113	133	142	137	129		0
29				{109	88	105	105	93	76	46	67	63	80	73	N 54	N 50	80	80	76	76	93	99	86	90	82	Z	86}		1
30				82	121	95	76	90	78	65	{N 4	N 41	N 39}	84	76	84	88	84	84	76	129	80	{N 50	Z}	50	67	67		1
31																													
MEANS * 16 DAYS				114	109	113	116	110	103	93	88	81	78	82	84	87	91	96	100	100	102	107	111	119	120	125	119	102	
MEANS † 16 DAYS				114	109	113	116	110	103	93	88	81	78	82	84	87	91	96	100	100	102	107	111	119	120	125	119	102	
MEANS ‡ 6 DAYS				103	103	105	107	102	93	90	86	79	74	77	76	84	85	90	92	95	94	97	102	109	109	109	108	95	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER {}=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 94

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.1	23.8	35	33.9	9.7			S	4	SSE	5	SSE	7	SSW	5	Ci; CiSt; CiCu	3- 8	Ci; CiSt; CiCu	7-10	Thunder and lightning in evening; rain at 24^h
2	745.5	24.5	50	30.7	15.6	T		SW	2	..	0	SW	6	SE	1	Ci; CiSt; CiCu; ACu	10	Ci; CiSt; CiCu; ACu	10	Hazy at 9^h; fire in SW after 15^h
3	743.5	28.4	32	34.3	14.2			S	3	SE	3	W	5	S	6	Ci; CiSt; CiCu; ACu	9-10	Ci; CiSt; CiCu; ACu	9-10	Thunder and lightning in evening; rain about 24^h
4	743.0	25.5	52	31.9	14.4	0.19		SSE	2	ENE	2	SE	4	S	6	Cu	1- 3	Cu	1- 3	Thunderstorm 1^h-2^h; lightning in NE in evening
5	742.9	25.8	52	34.4	13.0	T		S	1	E	1	SW	3	S	5	CiSt; ACu	0- 1	CiSt; ACu	0- 1	Air smoky in am and pm
6	744.8	24.8	41	29.8	11.4			S	3	ESE	8	SSW	8	S	5		0		0	
7	744.7	21.4	52	29.8	11.3			S	4	ESE	7	SSE	8	S	5	CiSt	1- 3	CiSt	1- 3	Dew early
8	741.5	23.6	50	34.0	13.7			SSE	2	E	8	NW	4	SW	3	Ci; CiSt; CiCu; ASt	1- 6	Ci; CiSt; CiCu; ASt	4- 6	Hazy at 9^h; becoming threatening in evening
9	741.8	20.0	68	25.2	16.1			WSW	3	WSW	6	SW	11	SW	7	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Rain at 20^h5
10	740.9	18.4	71	26.6	16.4	T		SSW	7	ESE	8	SSE	10	S	7	CuNb; Nb	10	Cu	4- 6	Few drops rain before 9^h5; clear in evening
11	738.5	22.6	49	34.9	13.7			ESE	11	E	12	V	4	SW	6	ASt; Cu	1- 6	Cu	4- 6	Clear in evening
12	738.5	22.0	61	32.0	13.7			NNW	1	NNW	10	WNW	14	WSW	3	Cu; FrCu; StCu	10- 7	Cu	6- 3	Almost clear in evening
13	740.0	20.3	65	28.5	14.6			..	0	NE	1	W	4	SW	2	CuNb; Nb	10	FrCu; Cu; Ci	4- 6	Clear in evening
14	739.9	17.5	88	23.6	11.9	T		..	0	NW	12	WSW	13	SW	2	CuNb; Nb	10- 9	Cu; FrCu	8- 1	Rain 9^h-10^h; clear in evening
15	742.8	18.1	53	25.6	9.7	T		SSW	2	SSE	3	WSW	5	SW	4	Cu; CuNb	10- 4	Cu	3- 1	Clear in evening
16	741.1	19.8	49	23.3	8.6			SSW	3	S	7	S	14	S	6	Cu; CuNb	7-10	Cu; CuNb	7-10	Dew early
17	743.3	19.5	44	26.3	8.1			S	5	E	12	ESE	8	S	9	FrCu	0- 1	FrCu	0- 1	
18	743.3	22.0	27	28.6	11.0			SE	8	ENE	12	ESE	10	SSE	5		0		0	Clear at night
19	745.0	23.3	25	29.2	10.9			ESE	5	ENE	10	ESE	16	SE	5	FrCu	0- 1		0	Clear at night
20	745.5	23.5	26	29.3	11.6			E	8	E	16	E	12	SE	5		0		0	Clear at night
21	746.5	23.8	25	30.2	11.8			SE	3	E	19	E	13	ESE	5		0		0	Clear at night
22	746.3	25.9	22	32.7	17.2			E	12	E	19	ENE	9	E	4	ACu	0- 1		0- 1	Few ACu clouds in evening
23	743.5	28.5	19	35.2	18.8			ENE	6	NE	16	N	7	NNW	4	ACu; StCu	3- 6	ACu; StCu; CuNb	7-10	Threatening at 16^h5; showers 17^h-24^h; lightning in evening
24	739.6	30.3	32	31.2	17.0	T		..	0	NW	12	W	11	V	4	CiCu; ACu; Cu	7- 8	ACu; Cu; CuNb	9-10	Occasional showers in pm; light rain all evening
25	742.0	21.1	62	28.3	15.7	0.05		..	0	SSW	3	WSW	5	SSW	5	Cu; StCu	7-10	Cu	6- 1	Clear in evening
26	742.5	23.1	40	33.7	8.9			S	3	ENE	1	V	8	SSW	6	ACu; ASt	0- 1	ACu; ASt	0- 1	Clear in evening; dew early; smoke smell at 8^h
27	743.2	24.4	42	31.7	11.9			S	3	S	2	SSW	12	S	11	Ci; CiSt	4- 6	Ci; CiSt	1- 3	Dew early; smoke smell in pm; clear in evening
28	744.0	25.9	40	36.7	12.9			S	9	ESE	11	V	4	S	5		0	Cu	1- 3	Dew early; hazy at 9^h; clear in evening
29	742.5	31.5	27	37.9	20.3	T		ESE	10	NE	4	SSE	2	WNW	10	ACu; ASt	7-10	ACu; ASt	7-10	Rain in early hours; rain at 20^h5; lightning in NE in eve.
30	742.5	31.9	25	39.4	20.5	T		E	2	NNW	7	NNE	12	V	5	ACu; ASt; CuNb	7-10	ACu; ASt	7-10	Rain early; overcast in evening, with rain at 20^h5.
31																				
SUM						0.24														
MEAN	742.8	23.7	44	31.0	13.5				4.1		7.9		8.3		5.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 95

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			134	133	133	[138]	154	156	189	242	281	286	281	271	253	235	236	229	224	207	173	153	154	165	195	146	199	1
2				196	202	210	149	191	169	207	194	191	178	170	149	123	127	131	86	167	124	195	185	216	207	219	217		1
3				259	253	261	271	273	319	345	391	387	329	285	275	245	(220	208)	186	174	131	156	169	109	100	138	165		1
4				—	—	—	—	—	—	—	—	206	204	190	183	162	153	146	150	150	149	156	163	163	156	154	149		2
5	✓	✓	✓	146	154	159	142	136	145	152	157	171	179	169	167	162	152	142	141	135	126	126	152	163	162	167	173	153	0
6	✓	✓		[154	138	113	118	119	94	104	138]	141	134	142	135	130	126	127	133	133	135	148	153	157	153	145	138	134	0
7	✓	✓		130	119	[116	122	126	140	200]	210	208	208	179	170	159	156	152	142	138	126	130	141	148	[133	122	119]	150	0
8	✓	✓		[113	127	169	254]	272	266	270	281	278	293	282	261	226	206	204	191	194	165	154	161	185	196	191	167	213	0
9				165	183	166	158	149	126	126	126	131	141	140	133	138	138	138	137	130	137	142	144	134	129	112	95		0
10	✓	✓		95	87	80	82	98	135	187	192	202	207	207	210	207	(208	198)	192	175	135	126	141	135	146	194	207	160	1
11	✓	✓	✓	206	210	212	234	247	238	251	254	259	259	253	247	234	207	194	185	169	152	148	135	126	133	142	161	202	0
12				170	159	169	166	115	—	—	—	153	152	162	166	167	165	162	162	166	171	171	170	175	167	159	—		0
13				—	—	—	—	—	—	—	—	170	171	181	165	169	173	181	177	169	162	165	169	181	189	206	211		0
14	✓	✓		235	243	251	224	225	221	242	186	148	138	119	129	133	131	135	141	142	144	137	137	153	179	190	190	174	0
15	✓			182	196	199	213	220	215	192	159	159	165	162	153	154	150	153	141	129	118	122	131	142	152	154	157	163	0
16	✓			166	170	170	179	185	(183	175	158)	141	140	137	127	123	126	126	130	135	141	142	145	145	148	154	167	151	0
17	✓	✓		167	169	152	138	169	198	208	217	217	216	196	191	192	183	182	181	186	185	170	[157	140	137	131	126]	175	0
18	✓	✓		[119	163]	230	240	252	259	271	276	271	251	225	206	199	(194	185)	181	178	166	167	169	190	165	135	135	201	0
19	✓	✓		(220	224)	229	247	243	296	333	304	275	238	211	194	192	186	165	142	126	138	140	149	181	203	224	226	212	0
20	✓	✓	✓	227	221	231	253	322	319	296	319	308	270	219	198	185	171	158	153	159	144	144	154	185	196	220	256	221	0
21	✓	✓	✓	291	324	323	322	328	328	333	287	245	207	182	177	174	175	167	162	166	163	163	170	152	156	170	183	223	0
22	✓	✓	✓	203	210	220	215	222	230	222	206	175	169	167	170	175	179	166	163	166	161	167	192	212	222	234	226	195	0
23	✓			225	210	211	219	221	227	212	196	182	167	162	152	152	152	154	150	94	133	169	182	157	206	191	212	181	1
24	✓			217	233	258	276	296	301	272	234	194	178	159	154	138	138	(142	141)	149	126	124	101	118	123	124	133	180	1
25	✓	✓		154	158	148	141	141	133	153	144	141	144	153	156	149	144	152	148	142	152	152	154	148	154	158	159	149	0
26	✓	✓		157	162	130	131	140	141	149	149	158	170	171	175	167	157	152	131	124	101	101	126	130	126	122	131	142	0
27	✓	✓	✓	133	127	127	138	126	115	98	91	123	129	133	149	138	130	115	113	115	131	138	142	145	141	131	131	127	0
28	✓			[129	111	84	80	86	91	149]	198	217	213	206	198	194	190	182	171	171	162	153	133	127	124	122	130	151	0
29	✓			167	211	200	213	229	230	226	238	226	215	200	191	194	202	191	181	175	163	165	181	156	167	167	199	195	1
30	✓			207	183	212	231	222	225	245	194	191	157	157	154	148	149	142	144	150	141	157	169	144	196	202	185	179	1
31																													
MEANS * 24 DAYS				174	178	182	190	199	204	214	210	205	197	186	181	174	169	163	158	153	146	146	151	154	162	166	169	176	
MEANS † 16 DAYS				172	177	181	188	198	204	217	213	208	201	188	183	176	169	162	156	153	145	144	152	159	163	167	170	177	
MEANS ‡ 6 DAYS				201	208	212	217	230	229	225	219	214	202	187	185	178	169	157	153	152	146	148	158	164	168	177	188	187	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 96

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			96	92	96	[107]	104	116	163	233	278	301	293	286	266	246	245	235	218	200	160	138	133	128	150	185	186	1
2				159	154	140	—	171	—	—	—	—	169	164	132	115	133	128	80	147	193	185	155	169	169	174	184		1
3				229	229	234	240	254	299	330	—	—	344	284	271	243	213	(222	192)	159	124	147	145	150	134	103	122		1
4				—	143	163	101	111	142	80	122	176	190	174	173	149	140	128	138	137	134	138	133	128	113	107	107		2
5	✓	✓	✓	93	101	105	95	93	97	121	134	145	147	147	154	143	134	129	129	120	115	111	125	136	121	111	133	122	0
6	✓	✓		[109	93	78	70	76	56	71	107]	113	118	124	117	111	108	112	112	128	124	126	122	122	117	107	95	105	0
7	✓	✓		95	93	[72	66	66	78	166]	209	210	203	186	169	156	150	143	132	117	107	122	124	120	[104	76	70]	126	0
8	✓	✓		[47	70	108	185]	231	229	246	270	277	281	282	260	231	202	204	188	184	156	133	134	146	158	149	134	188	0
9				—	—	—	—	—	—	—	—	115	120	121	122	121	124	121	120	113	115	122	122	107	99	84	82		0
10	✓	✓		79	70	68	62	75	97	164	177	197	212	209	210	213	203	(192	184)	159	120	111	120	105	105	162	178	145	1
11	✓	✓	✓	186	176	194	199	188	208	243	260	271	265	261	253	238	210	186	172	152	147	140	105	93	100	96	126	186	0
12				121	120	108	125	91	100	116	129	137	140	156	162	160	158	159	156	156	150	143	140	121	118	93	85		0
13				100	113	145	133	140	143	137	132	133	146	151	150	156	160	159	160	152	146	146	133	133	108	149	168		0
14	✓	✓		192	186	208	173	177	172	229	173	145	128	121	130	133	126	133	133	125	118	104	92	(93)	115	140	126	145	0
15	✓			118	126	147	160	162	190	166	145	146	137	138	130	133	137	134	125	112	105	104	97	92	80	84	101	128	0
16	✓			107	111	111	118	120	151	126	125	124	120	129	129	122	121	121	118	121	122	120	118	111	109	108	92	119	0
17	✓	✓		111	117	99	93	120	159	195	220	229	222	210	198	198	195	184	185	188	185	155	[133	109	111	97	85]	158	0
18	✓	✓		[84	111]	184	229	231	246	266	281	278	265	245	229	213	209	(190	184)	173	160	158	132	143	133	89	97	189	0
19	✓	✓		(195	198)	198	198	217	275	344	321	299	258	230	220	218	202	182	147	122	132	133	130	150	168	185	200	205	0
20	✓	✓	✓	197	205	213	222	282	304	303	333	334	291	241	229	209	186	171	158	146	143	145	137	146	158	185	218	215	0
21	✓	✓	✓	266	298	289	297	309	323	342	309	266	234	202	193	186	185	182	171	174	162	163	159	128	125	147	169	220	0
22	✓	✓	✓	190	195	200	202	210	222	229	207	186	181	173	184	181	177	168	168	160	155	154	171	185	198	195	198	187	0
23	✓			209	197	184	190	192	193	205	188	167	160	159	149	147	151	155	146	158	111	125	149	160	184	121	185	166	1
24	✓			184	198	240	260	278	283	270	234	205	185	166	155	146	136	132	(143	132)	115	116	111	70	87	96	104	169	1
25	✓	✓		93	100	83	80	80	71	97	93	120	122	143	146	140	138	143	130	132	124	120	117	108	108	117	108	113	0
26	✓	✓		104	96	87	68	91	96	118	125	136	146	159	162	162	159	149	125	111	87	95	107	107	97	96	95	116	0
27	✓	✓	✓	89	92	92	88	82	80	74	78	95	109	117	136	132	130	108	107	108	122	121	118	109	117	108	97	105	0
28	✓			[91	78	64	54	52	67	141]	207	217	220	213	205	205	194	185	176	162	151	141	120	107	96	103	105	140	0
29	✓			126	176	185	195	200	199	222	220	220	212	200	192	198	182	177	186	184	143	140	151	159	160	156	172	181	1
30	✓			171	154	151	173	160	185	202	212	209	173	151	147	146	150	146	149	147	129	140	159	147	176	171	151	162	1
31																													
MEANS * 24 DAYS				135	139	144	149	158	171	196	203	203	195	187	183	176	168	161	154	147	135	131	128	124	127	127	134	157	
MEANS † 18 DAYS				133	138	142	145	158	170	201	206	206	199	191	187	179	170	161	152	144	135	131	127	125	129	129	133	158	
MEANS ‡ 6 DAYS				170	178	182	184	194	206	219	220	216	204	190	192	182	170	157	151	143	141	139	136	133	136	140	157	172	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 97

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	71	59	71	59	63	59	59	59	63	54	59	63	63	63	92	92	87	85	96	92	89	92	98	96	74	0
2	✓			[73	94]	[169	222	173	128	139	103]	89	94	110	105	96	84	85	98	114	⌈137	150	173	189	186	184	155]	131	0
3	✓	✓		[134	98	71	82	105]	[162	270	137]	105	94	⌈103	123	160	168	144]	112	112	123	132	119	117	105	117	110	125	0
4				—	—	—	—	—	—	—	119	116	116	110	103	105	107	100	100	114	119	119	128	132	128	105	92		0
5				—	—	—	—	—	—	—	92	92	92	[87]	71	80	96	107	119	119	123	116	123	139	⌈148	160	192]		0
6	✓	✓		[204	180	171	144	112]	100	85	61	56	65	63	65	65	69	76	76	76	82	98	103	112	112	107	107	100	0
7	✓	✓	✓	107	116	107	116	105	101	89	85	82	82	78	78	78	84	87	94	98	114	103	101	96	112	112	119	98	0
8			✓	168	116	119	116	107	100	96	100	92	92	87	92	84	82	89	92	103	107	112	112	≷103	103	Z	Z ≷		1
9				≷Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	N 51≷	71	71	84	84	100	103	⌈144	164	187	194	166]	112		2
10				85	67	—	—	—	—	—	—	76	—	89	87	87	96	96	100	103	107	—	—	—	107	103	96		0
11	✓	✓	✓	87	84	87	84	76	84	84	80	69	69	76	69	73	82	100	92	101	87	96	92	87	87	84	76	84	0
12	✓			67	71	76	67	67	67	69	69	71	71	71	76	73	80	80(	92	94	96)	101	101	100	103	76	76	80	0
13	✓			63	51	51	54	37	39	59	84	85	76	94	87	94	100	107	103	119	116	112	110	126	⌈103	82	69]	84	0
14				—	—	—	—	—	—	—	—	71	76	76	80	84	92	100	107	116	119	126	130	119	114	123	105		0
15	✓			101	89	85	[53	61	67]	84	80	80	80	73	73	92	84	92	92	103	114	92	121	128	123	116	103	91	0
16				[71	67	71	63	63	41	63]	96	84	80	78	67	76	80	87	82≷	80	Z	Z	Z	Z	Z	Z	100≷		1
17				84	76	—	—	—	—	67	76	76	73	76	76	82	85	84	84	92	92	107	103	107	116	116	107		0
18				—	—	—	—	—	—	—	—	80	67	85	80	71	80	80	84	84	96	100	116	128	128	128	123		0
19	✓	✓	✓	116	103	103	96	84	71	89	98	89	78	[84]	87	84	87	96	96	105	114	121	132	142	128	116	[117]	102	0
20				—	—	—	—	—	—	—	—	87	80	78	73	80	84	89	103	105	112	112	101	110	112	105	92		0
21				—	—	—	—	—	—	—	—	87	87	80	96	84	87	103	96	107	114	126	⌈142	146	153	164]	139		0
22	✓	✓		139	137	127	130	96	114	105	92	87	100	96	96	100	100	107	103	119	⌈146	152	171	160	164	155	160]	123	0
23	✓	✓		[168	171	144	119]	103	87	76	73	67	69	65	67	71	76	80	80	84	76	87	92	87	76	63	59	89	0
24				59	54	59	51≷	54	Z	Z	Z	Z	Z	71	67	Z	Z	Z ≷	71	80	80	71	—	—	69	61≷	65≷		2
25				≷Z	Z	Z	Z	Z	Z	Z	31	31	53	Z	Z	47	Z	103	Z	80≷	96	87	80	63	67	67	67		2
26				67	67	63	71	67	63	51	54	59	67	[71]≷	Z	Z	Z	Z	Z ≷	59	80	84	84	80	107	92	84		1
27	✓			≷92	63	41	41	92	148	204	103	63≷	71	71	76	84	80	84	76	96	92	123	107	116	116	105	87	93	0
28			✓	78	89	117	117	94	69	69	53	51	49	56	65	67≷	N 31	N 2	Z	Z	84	94	96≷	100	98	110	107		1
29				123	[103]	—	—	—	[76]	69(	61	69)	67	78	84	89	94	107	94	148	≷N139	Z	Z	Z	152	160	152≷		1
30				≷152≷	—	—	—	—	—	—	—	76	87	87	96	87≷	Z	Z	Z	Z	N 29	41	100	Z	112	123	135≷		2
31	✓	✓		≷139	123	107	92	98	78	56	53	67	41	76	67	85	85	107	107	112	121≷	112	126	142	139	144	142	101	0
MEANS * 14 DAYS				112	103	101	97	91	93	105	84	77	75	80	81	87	89	96	94	101	107	112	117	121	118	111	105	98	
MEANS † 9 DAYS				129	119	110	102	94	95	101	82	76	72	78	79	87	90	99	95	99	105	111	114	115	113	111	110	99	
MEANS ‡ 6 DAYS				98	94	101	98	88	81	79	73	68	66	69	71	72	78	89	88	94	96	106	104	107	108	104	100	89	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 98

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1925

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	742.1	35.5	21	42.3	19.8	T		SSW	1	ENE	1	SW	14	SSW	4	ACu; ASt; Cu; StCu	3- 6	ACu; ASt; Cu; StCu	4- 6	Clear in evening
2	741.3	25.7	55	37.7	15.5			SSW	3	SSW	6	SW	4	SSW	4		0	CiSt; ACu	1- 3	Hazy or misty early; air hazy or smoky in pm
3	735.6	26.7	49	31.1	16.3			..	0	..	0	WSW	15	WSW	6		0	ACu	0- 1	Heavy dew early; air hazy; cloudy in evening
4	738.0	22.6	52	26.9	14.3			..	0	WSW	8	W	10	SW	4	Cu; CuNb	7- 9	Cu; CuNb	4- 6	
5	742.4	21.5	56	25.8	12.0			WSW	1	S	8	S	8	S	13	Ci; CiSt; Cu	7-10	CiSt	7-10	
6	745.3	17.9	46	27.1	12.3			S	10	ESE	22	ESE	17	ESE	12	ASt	7-10	Ci; CiSt	4- 6	
7	742.7	19.8	41	30.3	12.1			ESE	22	E	18	E	12	ESE	5	CiSt	3- 6	CiSt	7-10	Lightning in NE at night
8	737.3	26.7	49	37.4	19.9			ESE	8	NE	14	NNW	16	..	0	CiSt; CiCu	7-10	CiSt; CiCu	7-10	Smell of smoke at 17h
9	738.7	22.5	74	30.3	18.8	0.04		N	1	NNW	2	W	14	SSW	3	ACu; ASt	7-10	Ci; CiCu	4- 6	Heavy thunder and lightning at 3h
10	740.4	21.0	53	29.3	11.6	T		..	0	SSW	2	SW	7	SSW	4	CiSt; FrCu	4- 6	CiSt; FrCu	1- 3	
11	738.6	24.3	46	33.1	8.6			SSW	2	V	1	WNW	9	W	2		0	ASt	0- 1	Dew early
12	737.7	23.6	53	29.1	10.0			..	0	NW	8	W	22	W	6	CiCu; FrCu; Cu	4- 6	CiCu; FrCu; Cu	4- 6	Overcast in evening with Cu and Nb
13	738.6	21.6	52	26.6	11.2			..	0	W	8	WSW	12	WSW	3	Cu; FrCu; CuNb	7-10	Cu; FrCu; CuNb	7-10	Cloudless in evening
14	739.7	21.7	49	28.3	8.9	T		..	0	SSW	4	W	6	SSW	3	Cu; FrCu; ACu; Ci	7- 8	Cu; ACu; Ci; CiSt	7- 8	Heavy fog early; nearly cloudless in evening
15	740.7	23.7	42	34.9	9.7			SSW	2	ESE	6	V	3	SW	6	Ci	0- 1	ASt	0- 1	Smell of smoke at 17h
16	741.2	22.8	54	31.6	13.4	T		..	0	S	3	SW	6	SW	6	CiCu; CiSt; Cu	7-10	Ci; ACu; Cu; CuNb	7-10	Few drops rain at 19h and later; threatening all evening
17	742.2	20.0	59	24.8	13.9	T		WSW	2	WSW	15	WSW	16	WSW	6	Cu; FrCu; CuNb	10	Cu; FrCu; CuNb	10- 3	Cloudless in evening
18	743.4	18.8	51	26.3	5.9			..	0	S	6	SSW	6	SSW	4	Cu; StCu; CuNb	10	Cu; StCu; Ci; CiSt	10- 4	Cloudless in evening
19	740.0	19.9	47	28.9	7.1			S	3	SSE	5	WSW	8	SW	5	Ci; ACu; FrCu	0- 1		0	Perhaps fog or mist early
20	737.1	20.6	50	24.4	11.3			..	0	WSW	13	WSW	17	SW	7	Cu; FrCu; CuNb	7-10	Cu; FrCu; CuNb	7-10	Cloudy in evening; dew early
21	742.1	19.3	60	27.9	7.3			WSW	3	SE	4	SSW	3	SSW	8	FrCu; CuNb	7-10	FrCu; CuNb	4- 6	Hazy at 9h; clear at night
22	742.9	22.6	45	32.1	10.7			SSE	5	SSE	6	SSW	5	SSW	8		0		0	Smell of smoke at 17h
23	743.5	24.3	40	36.4	15.0			SSE	6	ESE	15	ESE	7	SSE	4	CiSt	4- 6	CiSt	4- 6	
24	741.8	23.2	69	32.0	20.3	0.04		SE	7	SE	4	SE	17	ENE	4	ACu; ASt; CuNb	7-10	ACu; ASt; CuNb	7-10	Thunder and lightning in early hours and all day and evening
25	740.3	22.8	80	30.1	19.0	0.42		SSE	4	NE	10	NE	7	..	0	CuNb; Nb; ACu	7-10	ACu; CuNb; Nb	7-10	Heavy thundershower in early am; thundery all day and eve.
26	737.7	28.8	54	32.8	19.0			..	0	N	2	SSW	2	SW	1	ACu; FrACu	4- 6	ACu; FrACu; CuNb	4- 6	Thunder and lightning at intervals
27	736.8	22.5	82	34.4	17.8	0.12		..	0	NNE	1	SW	4	SSW	6	CiSt; FrCu; StCu	10- 1	Cu	0- 1	Fog early
28	736.1	29.1	46	37.4	17.9			SSW	2	V	1	SW	4	SW	5	ACu	0- 3	CiSt; ACu; Cu	4-10	Thunder and lightning in early am and evening
29	736.8	33.0	38	39.1	18.8			..	0	NNW	3	W	12	S	1	ACu; ASt	1- 3	ACu; ASt	4- 8	Threatening in evening; few drops rain at 19h
30	737.0	32.5	37	39.3	19.3	T		..	0	NNE	6	V	15	SW	6	CiCu; ACu; StCu	1- 3	CiCu; ACu; CuNb	4-10	Severe thunderstorm at 14h8; rain at 16h and in evening
31	739.8	19.9	83	27.6	18.8	1.38		SSW	4	..	0	SW	8	S	9	Cu; CuNb	7-10	Cu	4- 6	High, thin clouds at night
SUM						2.00														
MEAN	739.9	23.7	53	31.5	14.1				2.8		6.5		9.9		5.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	171	215	208	222	210	216	233	238	216	204	191	190	156	(154	[63)	86	111	124	137	153	158	156	150	152	171	0
2				[149	113	78	59	68	79	98	134]	138	140	127	109	134	142	138	[111	76	82	86	78	83	80	83	90]		0
3	✓	✓		[86	75	59	43	29	39	87	134]	170	162	[116	84	58	63	78]	116	118	115	112	122	122	116	127	150	99	0
4	✓			156	170	182	182	178	156	141	124	123	119	118	105	102	104	108	108	115	118	122	115	126	133	154	145	134	0
5				159	171	175	170	196	207	181	144	142	153	127	133	135	135	118	111	112	124	140	144	127	120	102	83		0
6	✓	✓		(167	167	171	177)	181	192	181	177	182	183	194	189	182	170	165	157	161	163	166	170	178	179	186	194	176	0
7	✓	✓		186	183	179	181	179	186	186	196	208	212	208	206	199	(189)	178	183	190	192	195	199	207	191	208	210	194	0
8	✓			217	219	219	225	234	233	217	198	169	167	167	167	153	(152	144)	156	146	144	144	152	174	182	190	198	182	1
9				—	—	—	—	—	—	—	—	—	≷115≷	142	144	144	144	144	141	140	137	115	98	100	102	112	113		2
10	✓			87	100	84	123	141	154	156	156	158	156	162	154	154	146	144	141	141	144	149	150	154	154	157	173	143	0
11	✓	✓	✓	167	169	178	179	181	170	169	170	167	156	156	153	150	148	138	130	130	140	141	148	154	166	165	186	159	0
12				—	—	—	—	—	—	—	—	165	165	153	141	144	141	130	129	123	116	116	118	119	124	142	154		0
13				190	202	195	—	—	—	—	115	112	108	101	107	111	104	109	111	108	105	108	101	104	116	140	144		0
14	✓			156	142	185	242	249	157	308	253	157	142	127	127	126	119	118	113	119	126	126	134	145	158	165	181	161	0
15				190	210	216	252	203	207	194	186	195	191	191	190	190	(181	170)	166	152	127	129	146	138	142	153	167		0
16				165	165	157	157	159	234	217	138	144	157	157	169	166	161	154	144	146≷	140	123	142≷	129	144	141	145		1
17	✓			140	138	141	144	158	162	149	119	118	116	116	119	116	112	112	122	123	115	116	119	120	126	124	140	128	0
18	✓			161	183	189	194	247	280	280	203	134	127	(130	133)	145	135	135	133	133	127	130	135	141	141	142	152	163	0
19	✓	✓	✓	144	152	162	167	175	196	179	156	163	170	167	154	149	150	144	133	138	134	129	129	130	145	144	166	153	0
20				183	199	231	235	244	210	113	115	122	131	126	133	135	141	142	127	130	129	135	144	148	156	175	187		0
21	✓			196	199	189	194	231	257	258	210	181	173	175	167	167	159	159	161	167	141	134	129	138	144	141	153	176	0
22	✓	✓		158	153	142	146	152	165	183	207	212	210	207	194	186	(179	190)	175	159	130	126	112	126	118	115	115	161	0
23	✓	✓		112	111	134	150	173	194	211	221	221	216	215	219	212	206	207	196	199	190	179	181	194	198	233	240	192	0
24	✓			247	271	273	301	321	323	≷262	87	215	170	186	169	174	181	238≷	198	182	186	207	216	253	251	257	245	226	2
25	✓			≷204	167	199	153	157	183	170≷	202	200	178	≷134	170	154	152	166	173≷	185	169	170	192	211	191	225	249	181	2
26	✓			253	249	271	259	275	277	321	300	251	225	202	≷249	135	149	198	141≷	225	189	192	195	206	181	195	(194)	222	1
27				—	—	—	—	—	—	—	—	—	182	191	181	177	171	166	153	152	144	107	149	154	156	169	196		0
28	✓			199	210	192	191	203	210	234	293	326	295	275	256	225	210	207	181	179	177	171	169	179	181	170	175	213	1
29	✓			181	183	186	175	179	196	271	273	259	261	225	190	181	(167	[134)	118	116	127]	≷43	91	82	140	120	123≷	168	1
30				≷137	153	175	189	196	204	266	262≷	213	198	194	173	166	≷91	100	—	—	—	208≷	192	142	134	130	131		2
31	✓	✓		135	141	144	145	141	163	167	158	166	158	182	166	163	153	158	152	152	112	123	123	119	111	108	102	143	0
MEANS * 21 DAYS				168	171	176	181	190	196	208	194	190	181	174	170	157	152	152	146	152	146	143	149	158	160	166	173	169	
MEANS † 9 DAYS				147	152	153	157	158	169	177	184	189	186	182	173	162	157	147	148	151	144	145	149	154	153	160	168	161	
MEANS ‡ 6 DAYS				181	191	190	194	197	195	197	205	210	203	198	191	177	164	142	140	147	150	146	158	164	166	170	184	178	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 100

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1925

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	151	176	177	203	201	211	201	206	197	207	197	202	166	160	[86	82	104	122	128	125	137	140	124	101]	158	0
2				90	—	—	—	—	—	—	—	—	122	110	102	124	137	137	[108	69	64	71	63	62	55	59	71]		0
3	✓	✓		[73	59	42	21	17	20	52	108]	134	150	[118	79	56	56	69]	101	109	99	97	97	97	102	101	98	81	0
4	✓			112	134	147	151	136	121	118	109	109	105	106	98	98	95	99	97	101	98	99	87	89	94	109	102	109	0
5				—	—	—	—	—	—	—	—	—	125	134	137	138	124	110	99	105	112	124	124	110	105	86	60		0
6	✓	✓		(102	106	107	167	173)	180	180	181	190	193	210	217	213	194	189	179	176	177	176	164	166	171	181	188	182	0
7	✓	✓	✓	179	177	176	175	176	182	189	199	213	215	225	226	223	207	208	210	205	196	197	180	175	177	189	190	195	0
8	✓		✓	189	193	193	202	216	215	212	190	175	168	166	168	158	163	(160	163)	153	142	141	137	140	142	145	147	170	1
9				—	—	—	—	—	—	—	—	—	{163}	140	151	151	150	142	138	126	124	97	74	67	62	59	56		2
10	✓			43	35	42	69	97	99	126	133	147	149	158	159	158	150	146	141	137	137	125	124	120	124	126	124	120	0
11	✓	✓	✓	144	136	146	149	150	144	150	146	156	150	158	153	154	154	141	138	133	137	128	124	122	129	128	137	141	0
12				167	199	202	205	272	333	302	231	177	162	164	164	167	150	137	136	120	110	109	99	98	98	114	122		0
13				—	—	—	—	—	—	—	—	112	109	99	102	109	99	105	105	99	98	97	87	81	83	109	137		0
14	✓			146	137	167	241	252	164	308	257	158	136	125	126	130	122	121	112	110	112	108	99	98	110	108	122	149	0
15				145	173	—	—	—	—	—	—	—	202	197	203	192	199	(193	173)	150	114	113	118	110	102	97	99		0
16				122	—	—	—	—	—	175	125	129	149	159	171	168	160	153	149	145	155	{145}	129	{141}	129	{138}	114		1
17	✓			114	106	105	114	124	141	144	110	110	114	124	121	112	113	114	128	121	112	110	105	97	98	86	97	113	0
18	✓			122	124	137	162	194	254	250	186	130	121	(121	130	145)	138	140	137	134	121	118	110	98	109	110	117	142	0
19	✓	✓	✓	113	121	114	128	138	171	155	142	147	162	166	151	150	160	147	138	136	125	110	106	95	94	99	117	133	0
20				137	—	—	—	—	—	—	—	—	126	125	146	138	150	146	126	125	121	122	120	114	104	113	147		0
21	✓			153	154	137	138	202	220	230	176	167	163	164	155	162	160	155	151	147	133	124	110	114	110	105	112	152	0
22	✓	✓		112	108	98	95	108	124	163	198	208	203	203	190	186	184	(189	179)	154	116	117	101	106	98	95	87	143	0
23	✓	✓		78	82	99	136	168	194	217	230	232	227	228	236	239	230	218	212	208	205	184	167	175	192	215	241	192	0
24	✓			252	262	281	321	324	338	{225	358	240	221	189	177	228	162	217}	217	194	202	215	216	228	220	222	216	239	2
25	✓			{194	173	220	241	124	159	166	180}	188	171	{172	137	153	149	149	163	151}	144	145	153	176	164	185	198	169	2
26	✓			205	215	236	242	241	251	309	276	233	217	199	{215	(169)	176	172	194}	232	177	159	150	168	144	137	140	202	1
27				112	145	169	163	89	73	70	126	137	163	169	168	162	163	158	149	140	133	102	125	125	126	138	150		0
28	✓		✓	176	164	150	150	154	160	211	289	308	291	275	257	240	228	220	206	175	164	158	151	153	150	144	150	197	1
29	✓			136	129	136	137	140	197	227	254	264	278	234	207	193	[177	(134	112)	102	101	{150	138	120	83	81	74}	158	1
30				87	109	122	120	136	117	192	234	205	194	—	—	184	190	{—	—	—	—	179}	141	110	99	97	94		2
31	✓	✓		{97	99	109	109	110	121	124	129}	133	138	160	154	150	142	153	155	146	102	108	99	95	97	86	83	121	0
MEANS * 21 DAYS				140	140	147	160	164	175	188	193	183	180	176	169	166	158	154	153	149	139	138	131	132	131	132	135	156	
MEANS † 9 DAYS				121	125	125	131	138	150	159	171	179	183	185	179	171	165	156	155	152	142	138	129	130	133	135	138	150	
MEANS ‡ 6 DAYS				155	161	159	168	172	175	181	194	202	203	205	201	191	173	155	149	149	148	140	137	137	140	143	147	166	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 101

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		147	141	147	151	131	110	89	75	(65)	71	69	67	69	73	69	69	75	75	89	[97	206	186	147	135]	106	0
2	✓	✓		[131	110]	97	93	89	84	84	75	75	71	67	67	80	89	93	89	[89	147	243	245	194	183	168	156]	117	0
3				[176	210	218	178	139	123]	104	93	80	75	75	71	78	97	93	100	102	97	[131	301	Z+	382	304	269]		0
4				[230	198	135	110]	97	75	67	60	58	58	62	62	67	≷ Z	Z	Z	Z ≶	89	[93	206	147	171	155	143]		1
5				[135	147	161	178	166	176	—	—	—	166	159	143	127	118	114	131	147	206	—	—	—	208	188	210]		0
6	✓	✓		[208	249	139	149]	141	123	114	106	97	89	93	102	97	(102	106)	110	106	110	114	127	127	108	91	93	121	0
7	✓	✓	✓	93	97	84	73	62	51	54	58	65	80[	80	80	84	82	80	93	86	75	71	69	[198	304	396	349]	115	0
8	✓	✓		[237	175	106]	67	54	40	32	40	58	58	62	62	75	71	114	106	89	116	[147	283	269	334	257	245]	129	0
9				—	—	—	—	—	—	[184	106]	75	80	80	93	93	102	102	106	106	[131	213	198	218]	—	—	—		0
10				—	—	—	—	—	—	—	—	—	104	104	110	116	116	120	102	[120	153	155	143	198	237	222	222]		0
11				[245	257	155	194	265	302	359	263	193	153	127]	106	110	—	—	—	—	[171	153	155	166	156	147	165]		0
12				[210	269	319	354	351	288	203	84]	71	67	65	62	60	71	73	80	71	80	78	[225	Z+	Z+	330	304]		0
13				[260	123]	80	89	75	67	67	67	56	51	51	56	56	≷ Z	Z	Z	Z ≶	54	56	65	69	71	73	56]		2
14	✓	✓	✓	49	54	49	67	45	45	65	65	67	71	71	67	80	84	89	106	127	135	123	110	89	82[	135	175]	85	0
15				[166	131	91]	67	45	36	67	110	102	89	71	56	51	62	60	71	102	129	123	114	159	≷ 131	Z	Z ≶		1
16				≷ Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	27	36	40	45	Z	N 27	80	18	36	N 34	Z	−11	58	N 51≶		2
17				≷ 58	75	80	N 13	N 9	75	97	−9	40	Z	Z	Z	Z	Z	Z	Z	51	−38	−13	32	45	N 0	Z	Z ≶		2
18				≷ Z	106	Z	N 36	75	N 27	N 27	75	67	58	49	40	43	27	30	Z	Z	N 25	91≶	62	58	93	89	80		2
19	✓	✓	✓	114	110	97	93	75	67	62	62	47	45	38	34	38	43	49	54	56	58	71	71	54	58	75	62	64	0
20	✓	✓	✓	54	58	62	62	58	54	62	49	43	45	45	45	45	45	32	32	N 27	43	49	51	54	[106	178	202]	63	1
21	✓	✓		[183	176	283	260	178	153	100]	67	65	62	65	58	60	60	58	54	54	56	58	[80	178	288	241	147]	124	0
22	✓	✓		[123	127	110]	102	102	102	110	97	75	58	58	54	49	45	49	49	54	58	[91	95	110	123	173	235]	94	0
23	✓	✓		[184	208	151]	86	106	84	80	62	51	36	32	32	38	47	60	58	[68	106	116	114	166	155	245	379]	111	0
24	✓	✓		[269	67]	84	93	91	78	67	62	58	49	45	45	49	49	54	62	58	[97	139	175	178	183	257	382]	112	0
25				[Z+	Z+	Z+	392	363	276	202]	143	131	125	110	108	108	[120	123	118	151	183	225	276	296	334	296	210]		0
26	✓	✓		[110	71	75	58	93	156	155	176	(165	154)	143	127	123	127	132	163	216	210	200	135]	118	123	118	131	137	0
27	✓	✓	✓	127	135	135	118	123	112	110	110	110	102	97	93	93	102	106	97	97	106	112	125[	159	257	218	245]	129	0
28				[173	163	151	175	159	102	186	257	222	139	114]	95	91	91	97	[114	183	130	288	—	—	302	—	—]		0
29				—	—	—	—	—	—	—	—	—	[151	97	114	110	127	175	216	255	233	176	139]	114	110	106	102		0
30	✓	✓	✓	102	127	123	106	78	78	93	89	97	82	89	93	95	114	100	112	116	114	127	139[	161	186	181	163]	115	0
31	✓	✓		[159	97	186	301	315	338	304	208	168]	132	127	127	123	127	120	132	132	131	[222	309	312	357	310	304]	210	0
MEANS * 16 DAYS				143	125	120	117	109	105	99	88	82	75	74	72	75	79	82	87	90	102	123	139	161	190	199	213	115	
MEANS † 16 DAYS				143	125	120	117	109	105	99	88	82	75	74	72	75	79	82	87	90	102	123	139	161	190	199	213	115	
MEANS ‡ 6 DAYS				90	97	92	86	74	68	74	72	72	71	72	72	75	82	80	85	88	94	99	106	93	96	92	87	84	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE [ ] = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 102

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	742.4	21.6	46	30.9	12.3		12.8	S	7	ESE	14	ESE	8	S	9	Ci; CiSt	10	Ci; CiSt	10	Clear in evening; smell of smoke in evening
2	740.0	22.4	42	33.3	16.2		12.2	S	12	SE	12	SE	10	S	9	Ci; CiSt	7-10	Ci; CiSt	7-10	Few clouds in evening but hazy as with smoke
3	740.1	22.8	32	32.8	15.2		12.6	SSE	8	ESE	17	SSE	6	S	7		0	ACu	1- 3	Smoky at night
4	738.3	29.6	40	35.9	15.4		7.4	S	3	NE	5	V	6	SSW	2	Ci; CiSt; ACu	9-10	Cu; CuNb; Nb	10	Thunder in pm and evening; smoke in evening
5	741.7	20.9	60	30.6	15.2		12.8	SW	13	SSE	12	SSE	6	S	11		0		0	Smoke in morning and evening
6	743.7	22.9	35	33.2	14.8		13.0	SE	14	E	15	E	10	SE	4		0		0	Hazy in morning
7	740.7	29.0	23	37.8	17.1		11.1	E	4	ENE	14	NE	2	SSW	5	CiSt	4- 6	Ci; CiSt; CiCu	7- 8	Smoke in evening
8	738.5	32.2	19	40.9	17.5		10.9	..	0	NE	9	W	10	SSW	3	Ci; CiSt; CiCu	4- 6	CiSt; CiCu; ACu	4- 6	Thunder in NE 14h-15h; smoke at night
9	739.5	26.2	39	36.4	17.5		12.4	S	3	SE	11	SSE	3	S	8		0		0	Smoke all day
10	738.3	24.9	46	37.0	15.8		12.4	ESE	5	E	6	SSE	4	S	9		0		0	Smell of smoke at 16h and in evening
11	737.2	25.8	46	36.0	15.3		12.7	S	4	SSE	6	SSE	4	S	11		0		0	Smoky all day
12	736.1	26.5	32	39.0	15.5		11.6	S	2	ESE	10	E	2	S	4	Ci	1- 3	Ci; ACu	1- 3	Dew in am; smoky in pm and evening
13	734.3	32.8	27	41.3	23.4		8.9	ESE	6	E	8	ENE	14	NE	2	Ci; CiSt; Cu; StCu	1- 3	Cu; CuNb	4-10	Frequent thunder showers after 14h; clear in evening
14	736.2	29.3	43	40.7	17.0	0.06	12.4	..	0	..	0	NNW	3	..	0	CiSt; ACu	4- 6	Cu	1- 3	Smell of smoke at night
15	735.1	31.5	40	41.8	17.9		10.1	SSW	1	..	0	W	5	V	3		....	Cu; CuNb	8-10	Lightning in all directions in evening; hazy in am
16	735.8	29.6	29	36.1	24.4		0.4	V	4	E	4	ENE	8	SE	9	CuNb; Nb	10	CuNb; Nb	10	Rain in afternoon
17	734.7	31.7	23	37.1	26.8	T	0.2	SSE	11	NE	5	NNE	8	SE	3	ACu; ACuNb	9-10	ACu; ACuNb	9-10	Occasional drops of rain
18	738.3	32.0	25	37.9	27.8	T	2.3	E	17	ENE	14	NE	5	SE	8	CiSt; ACu; CuNb	9-10	Nb	9-10	Thunder in SW 15h-16h; occasional drops of rain
19	739.2	29.6	23	37.6	24.2	T	11.5	E	12	ENE	19	ENE	8	ESE	2	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	Hazy in am
20	738.7	31.4	25	37.9	21.6		10.5	ENE	6	NE	13	ESE	8	SE	6	Ci; CiSt; CiCu	4- 6	Ci; CiSt; CiCu	4- 6	Smoky in evening
21	739.6	32.8	16	39.6	17.0		12.6	S	5	ENE	7	ESE	12	S	8		0		0	Much smoke in evening
22	740.3	32.0	19	39.6	20.2		12.4	SE	6	ENE	6	E	9	S	11	CiSt	10	CiSt	10	Thick smoke in pm
23	739.2	29.0	31	36.8	20.4		12.2	SE	11	E	9	S	5	S	11		0		0	Fire in S in pm; air smoky
24	738.5	24.2	46	35.0	18.6		12.0	ESE	15	ESE	14	SSE	8	S	14		0	Ci; Cu; StCu	1- 3	Smell of smoke in evening
25	737.1	25.2	42	34.1	16.5		12.5	S	6	ESE	6	SSW	10	SSW	11		0		0	Smoky all day
26	739.3	24.0	56	33.6	15.5		11.6	SSW	5	SSE	6	SSW	8	SSW	10		0		0	Heavy fog early; smoky all day
27	742.2	23.6	56	34.3	16.2		12.5	S	6	SSE	10	S	5	S	10		0		0	Strong smell of smoke all day
28	742.0	25.4	50	40.7	15.5		11.3	SSE	7	ESE	5	WSW	3	S	7		0		0	Fog early; much smoke all day
29	738.2	29.0	45	39.9	15.0		12.0	S	2	SSE	2	SSW	16	SSW	11	ACu	1- 3	ACu	1- 3	Fog early; air smoky all day
30	741.7	22.4	62	32.7	14.5		11.0	SSE	4	S	7	SSW	5	S	13	Cu	1- 3		0	
31	741.9	24.0	43	36.3	12.9		12.4	S	7	ESE	10	SSE	5	S	10		0		0	Very smoky in pm and evening
SUM						0.06														
MEAN	739.0	27.2	38	36.7	17.8		10.7		6.6		8.9		7.9		7.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 103

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		113	101	91	97	129	141	159	169	161	163	153	144	140	142	141	146	144	137	127	[129	56	80	104	113]	128	0
2	✓	✓		[122	141]	154	158	166	167	171	174	161	186	(190)	186	177	162	140	148	[146	82	35	42	72	75	75	84]	135	0
3	✓			[80	71	72	82	108	120]	129	144	153	169	182	178	167	163	156	153	141	138	[116	48	32	43	52	66]	115	0
4	✓			[76	98	153	169]	181	224	240	271	280	244	221	217	194	}182	14	14	141}	183	[173	66	116	113	112	113]	158	1
5	✓			[113	116	102	73	65	80	90	55	63	75	76	94	107	(135	141)	116	83	48	72	100	84	69	84	79]	88	0
6	✓	✓		[71	73	116	105]	116	146	156	167	169	163	181	182	174	170	173	170	178	173	167	178	185	207	229	236	162	0
7	✓	✓		233	230	248	268	306	332	345	312	225	194	177	178	181	175	170	167	167	144	153	170	[72	53	42	49]	191	0
8	✓	✓		[62	73	142]	211	249	326	354	307	227	219	199	173	165	149	135	129	93	100	[90	39	43	50	42	29]	150	0
9	✓			[24	23	22	23	26	29	46	90]	113	124	115	112	101	94	89	94	82	[66	36	43	43	48	48	52]	64	0
10	✓			[53	66]	124	118	140	165	173	192	206	207	204	182	169	163	154	137	[98	69	60	66	68	69	73	71]	126	0
11	✓			[63	58	55	40	29	23	32	53	71	79	84]	97	107	108	104	[75	35	49	72	69	72	76	87	75]	67	0
12	✓			[56	45	37	33	33	43	76	157]	177	202	202	208	208	202	186	181	181	165	161	[66	42	26	24	29]	114	0
13				[46	134]	177	158	171	199	208	220	238	230	—	—	—	—	}40	83	82}	207	204	210	212	216	219	240		2
14	✓	✓		261	261	285	256	319	312	271	229	217	219	213	211	199	195	167	118	97	100	113	131	153	156	[118	83]	195	0
15	✓			[71	72	100]	108	115	131	131	94	102	111	123	141	157	135	111	87	75	72	73	80	86	}84	50	52}	98	1
16	✓			}73	133	152	178	158	112	105	141	109}	170	185	192	}131	102	108	111	105	157}	165	167	}138	131}	181	175	141	2
17	✓			157	165	177	181	167	183	}177	166	179	178	178	196	129	97	141	156	173	156	150	167	169	174	167	127}	163	2
18	✓			}153	104	86}	113	138	150	135	127	131	135	141	152	154	163	158	}133	140}	111	86	90	100	[60	82]	95	122	2
19	✓	✓		79	82	90	109	130	154	179	170	177	177	170	154	149	(149	154)	159	154	87	101	79	87	102	129	199	134	0
20	✓	✓		251	224	211	231	258	263	225	233	221	220	207	182	173	165	144	153	152	150	138	133	165	[134	56	55]	181	1
21	✓	✓		[43	32	35	36	59	89	144]	217	224	207	194	142	154	140	130	130	97	111	97	[66	27	20	23	23]	102	0
22	✓	✓		[22	43	73]	86	79	76	87	101	141	170	170	169	141	126	129	127	113	109	[68	42	42	29	26	17]	91	0
23	✓	✓		[16	19	49]	90	112	98	101	116	137	149	142	153	144	116	97	100	[93	40	39	40	29	26	24	17]	81	0
24	✓	✓		[17	66]	91	86	95	104	100	111	134	150	144	154	150	153	154	141	127	[73	33	32	29	26	24	24]	92	0
25				[23	20	19	20	27	40	65]	73	71	78	86	86	84	[60	53	52	52	52	45	40	32	32	42	69]		0
26	✓	✓		[84	73	76	46	30	27	26	20	33	32	29	33	30	(30	24)	26	30	37	48	111]	140	140	142	140	59	0
27	✓	✓		146	141	137	133	130	129	140	127	126	141	142	148	146	146	142	141	138	138	148	146	[105	68	75	63]	129	0
28	✓			[95	105	111	102	89	86	42	20	35	66	94]	105	102	105	108	[89	35	35	14	14	35	36	40	46]	67	0
29	✓			[58	60	52	52	58	58	59	62	55	46	56	53	58	40	26	20	20	24	48	76]	112	133	141	150	63	0
30	✓	✓		135	131	138	145	154	145	157	161	153	156	153	149	150	141	124	123	109	109	111	104	[93	78	79	90]	129	0
31	✓	✓		[87	62	43	35	29	37	55	83	101]	126	122	118	116	118	118	124	127	129	[71	43	43	40	37	39]	79	0
MEANS * 29 DAYS				97	99	111	116	126	136	142	147	148	154	153	152	144	137	125	120	113	103	95	87	84	81	82	82	118	
MEANS † 16 DAYS				109	110	124	131	148	159	167	168	164	167	162	155	149	142	134	131	123	107	96	93	84	80	77	79	127	
MEANS ‡ 6 DAYS				184	178	185	190	216	222	220	205	186	184	178	171	165	161	151	144	138	126	130	121	130	133	157	177	169	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 104

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1926

DAY	*	†	‡	0-	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		87	79	75	75	97	110	147	173	173	175	167	166	164	163	163	153	149	133	122	[121	52	66	95	98]	125	0
2	✓	✓		[106	117]	134	153	151	159	171	177	192	198	(210)	205	189	172	137	146	[144	81	39	34	57	60	64	73]	132	0
3	✓			[69	56	50	66	86	109]	137	147	162	179	197	202	192	177	163	153	141	130	[105	42	20	27	42	43]	112	0
4	✓			[49	69	113	136]	163	215	236	277	289	254	239	239	215	206	234	202	154	172	[166	57	86	86	93	95]	169	1
5	✓			[95	97	85	59	53	66	82	46	50	56	69	73	94	134	(140	113)	75	41	59	83	59	56	71	56]	76	0
6	✓	✓		[41	43	99	99]	109	137	151	164	172	172	186	189	188	185	180	188	185	179	171	158	142	155	175	188	152	0
7	✓	✓	✓	179	211	222	239	277	310	360	338	249	210	192	188	189	188	180	175	173	150	162	168	[62	32	29	29]	188	0
8	✓	✓		[49	64	124]	196	232	296	354	326	250	240	213	179	173	158	136	133	97	94	[81	29	31	32	32	27]	148	0
9	✓			[24	17	17	20	20	22	42	85]	102	112	112	109	101	91	81	85	75	[64	29	38	38	32	38	34]	58	0
10	✓			[34	36]	94	86	106	110	154	175	185	190	199	175	155	150	145	132	[82	57	59	59	55	52	48	55]	108	0
11	✓			[46	42	43	35	25	24	27	42	52	67	74]	85	97	99	104	[66	31	45	67	59	56	67	73	57]	58	0
12	✓			[42	31	27	27	27	29	59	53]	173	202	211	226	227	225	(202	173)	176	163	153	[59	28	18	20	24]	107	0
13			✓	[32	125]	164	142	163	189	203	216	240	—	—	—	—	—	≷228	164	166≶	203	201	184	171	173	177	211		2
14	✓	✓		227	239	249	225	277	308	232	211	194	206	213	213	205	205	173	114	85	89	98	110	118	124	[85	60]	178	0
15	✓			[53	55	70]	91	97	128	118	71	81	95	120	150	168	129	109	85	69	62	64	66≶	59	59	104	126≷	93	1
16	✓			≷162	128	83	164	116	(120)	124≷	160	147	184	190	215	≷134	106	60	114	102	138	171≷	166	160	140	176	186	144	2
17	✓			154	150	163	181	181	176	162	186	169	≷133	132	201≷	198	≷180	114≷	192	179	184	176	173≶	150	186	158	147≷	168	2
18	✓		✓	≷145	94	86≷	113	129	149	137	124	132	125	137	153	160	172	166≶	133	147≷	113	83	87	93	[57	71]	86	120	2
19	✓	✓	✓	70	73	85	102	130	150	167	164	179	188	190	171	172	175	(179	168)	154	83	97	74	79	87	105	163	134	0
20	✓	✓	✓	216	202	192	213	247	256	216	228	226	225	223	215	207	196	162	175	171	169	147	138	155	[117	43	35]	182	1
21	✓	✓		[32	25	27	27	48	74	126]	208	227	221	210	158	173	149	144	141	101	112	97	[60	27	18	15	15]	101	0
22	✓	✓		[21	39	64]	70	67	64	70	98	142	163	176	188	156	137	137	128	120	116	[70	41	38	25	22	15]	90	0
23	✓	✓		[15	18	46]	89	89	93	99	116	136	153	154	154	150	121	99	99	[93	41	38	41	29	22	18	13]	80	0
24	✓	✓		[15	73]	89	79	86	95	98	116	134	149	149	154	166	166	163	145	122	[75	36	28	31	28	20	15]	93	0
25				[17	14	14	17	22	28	45]	69	70	70	79	—	—	—	—	—	—	[42	41	29	25	28	28	46]		0
26	✓	✓		[71	73	71	42	27	24	22	18	24	25	28	27	27	25	(22	25)	27	32	41	91]	124	116	110	104	50	0
27	✓	✓	✓	102	97	110	122	113	102	113	110	113	125	136	140	150	150	150	149	137	140	140	122	[86	46	56	45]	115	0
28	✓			[73	86	85	62	60	73	38	17	34	53	70]	86	93	95	97	[83	32	27	11	13	28	31	29	31]	54	0
29	✓		✓	[41	39	38	27	41	45	41	56	50	34	43	43	53	39	22	14	11	18	38	62]	95	110	122	129	50	0
30	✓	✓		124	99	97	85	82	104	109	140	144	140	150	149	158	137	113	114	102	101	97	86	[75	63	64	75]	109	0
31	✓	✓		[73	62	38	25	22	24	34	71	94]	108	109	106	109	113	110	110	105	106	[59	39	34	25	27	28]	68	0
MEANS * 29 DAYS				83	83	92	100	109	123	132	141	147	151	155	157	154	146	134	128	112	101	92	79	71	67	69	71	112	
MEANS † 16 DAYS				89	95	108	115	128	144	154	166	166	169	169	163	161	152	140	135	123	106	93	84	71	64	60	61	122	
MEANS ‡ 6 DAYS				153	154	159	164	188	205	200	198	184	182	183	180	180	175	160	151	139	127	125	106	108	108	127	147	158	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 105

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1926

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				⌈252	244	230	327	396	Z+	Z+	Z+	324	217	174	143	151	168	179	205	229	292	329	349	287	236	217	197⌋		0
2	✓	✓		⌈194	201	309	209	267	224	230	316	303	311	261	232	236	236	209	186	174	171	219	194	137⌋	⌈88	121	101⌋	214	0
3				⌈88	94⌋	⌈70	115	159	139	137	96⌋	72	66	61	72	90	92	98	92	≷115	307	Z	Z	Z	≷72	94	101		1
4				110	115	110	121	129	131	117	105	70	77	85	98	107	108	≷Z	Z	Z	Z	Z	178	Z	107	103≷	⌈90⌋		2
5	✓	✓		⌈256	342	305	298	287	244	182	221	205	212	168	164⌋	147	129	115	133	141	124	124	107	⌈168	179	176	133⌋	190	0
6	✓	✓		113	96	108	113	94	94	95	⌈166	219	171	144	149	153	172	133⌋	101	110	110	127	143	159	147	136	143	153	0
7	✓	✓	✓	147	143	131	115	101	105	115	119	107	103	85	85	85	88	98⌋	⌈107	133	154	162	162	147	98	127	131⌋	119	0
8	✓	✓		⌈133	125	201	234	229	221	153⌋	103	96	85	77	98	127	124	119	115	107	103	⌈162	246	282	267	229	188⌋	159	0
9	✓	✓		⌈164	196	174	186	153	136	124⌋	90	77	81	90	94	85	85	94	94	94	113	110	⌈141	321	264	256	287⌋	146	0
10	✓	✓		⌈321	338	342	382	423	396	346	212⌋	136	110	90	94	105	98	107	110	⌈131	189	219	279	392	321	271	256⌋	236	0
11	✓			⌈252	221	256	182	221	294	344	376	321	275	217	209	189	172	172	162	141	115	107	123	154	171	174	189⌋	210	0
12	✓			⌈197	186	182	230	230	189	172	212	217	178	154	159	154	159	171	182	171	186	186	196	149⌋	103	141	136	177	0
13	✓	✓	✓	117	129	125	137	133	105	98	105	98	107	94	103	103	103	98	90	90	90	85	92	101	117	113	117	106	0
14	✓	✓		96	110	121≷	149	159	149≷	136	124	107	90	94	77	72	90	85	85	90	90	94	107	124	115	103	90	107	0
15	✓	✓	✓	81	72	63	63	55	70	105	63	96	90	92	103	94	98	103	115	107	107	117	107	125	125	113	115	95	0
16	✓	✓	✓	63	61	53	66	68	59	50	94	81	81	85	81	81	94	85	90	96	94	90	94	107	127	115	94	84	0
17	✓	✓	✓	103	107	115	110	113	108	98	85	81	81	90	110	119	107	103	101	92	119	115	115	124	127	124	117	107	0
18	✓	✓	✓	124	113	107	113	96	81	108	105	94	103	94	90	90	107	115	103	113	131	133	136	136	131	147	127	112	0
19	✓	✓		127	131	131	139	121	115	117	133	⌈143	209	224	201	162	143	127	131	127⌋	110	110	113	⌈139	153	172	137⌋	142	0
20	✓	✓		121	127	127	125	129	107	90	81	⌈90	147	147	119	115	107⌋	94	94	103	107	107	⌈131	159	162	151	139⌋	120	0
21	✓	✓		⌈139	151	151	154	149	153	144	143	136	115	98	103	115	115	103	98	115	136	119	98	156	139	110	96⌋	126	0
22				⌈98	117	133	—	—	—	166	162	115⌋	85	77	77	77	77	81	⌈107	110	124	125	153	199	191	197	194⌋		0
23	✓	✓		⌈229	178	139	139	147	113⌋	88	72	66	66	61	61	72	74	77	70≷	70	N 42≷	103	110	90	94	90	85	97	1
24	✓	✓	✓	103	103	103	90	77	61	46	61	74	77	77	77	77	85	83	94	96	105	96	103	90	110	85	85	86	0
25	✓			68	115	77	50	50	63	46	57	72	68	72	72	68	63	74	81	90	105	85	72	72	90	85	90	74	0
26	✓	✓		90	107	⌈151	171	162	171	151	127⌋	72	77	72	81	74	77	83	90	94	98	110	110	110	101	92	94	107	0
27	✓	✓		77	74	59	50	50	42	37	68	83	59	68≷	N 46	66	63	66	79	70≷	101	79	98	103	90	85	66	70	1
28	✓	✓		63	77	83	92	⌈70	66	59	68⌋	68	72	77	63	63	72	81	81	96	96	⌈127	147	121	127	117	108⌋	87	0
29																													
30																													
31																													
MEANS ✱ 24 DAYS				141	146	151	150	149	140	131	133	127	124	114	111	110	111	108	108	110	116	124	134	153	144	139	130	129	
MEANS † 21 DAYS				136	142	148	149	147	134	122	122	116	117	109	106	107	108	104	103	107	114	124	135	157	147	140	129	126	
MEANS ‡ 7 DAYS				105	104	100	99	92	84	89	90	90	92	88	93	93	97	98	99	101	108	109	113	120	126	119	114	101	

DESIGNATIONS AND REMARKS:

✱ = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 106

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.2	27.0	40	38.9	15.3		12.2	S	3	SSE	5	SSW	10	S	11		0		0	Smoky all day
2	738.8	25.5	50	34.6	16.3		11.2	S	4	SSE	12	S	14	S	9		0		0	Very smoky all day
3	740.0	27.6	39	42.4	17.2		11.0	SSE	5	E	14	W	2	V	1	Ci; CiCu; CiSt	1- 3	Cu; CuNb	4- 8	Thunder in pm and evening; rain in evening
4	740.2	31.7	46	39.4	24.2	T	8.5	NNE	1	N	16	NNW	9	NNW	3	ASt; StCu	1- 3	Cu; CuNb; Nb	4- 8	Thunder in pm and evening; rain in evening
5	742.3	24.0	69	34.9	20.9	T	8.1	SW	2	SSE	4	SW	3	S	10	CuNb; Cu	10- 4	Cu	1- 3	Hazy in evening
6	741.0	24.7	47	31.7	16.2		10.5	S	3	S	2	SW	13	SSW	9	ASt; ACu; StCu	8- 9	Cu; ASt	1- 3	Clear and cool in evening; mist in early am
7	743.9	22.0	48	26.6	13.8		11.8	S	4	S	13	S	13	S	12	Cu; FrCu	1- 3	CiSt	1- 3	Haze in am
8	745.8	19.3	39	28.1	9.8		10.5	SSE	6	E	12	ESE	7	SSE	10	CiCu; StCu; ACu	4- 6	CiCu; StCu; ACu	4- 6	Smoky in late pm
9	743.7	23.0	38	33.0	12.7		12.2	SSE	5	ENE	12	V	2	S	8		0		0	Smoky in evening
10	740.5	27.7	29	37.9	12.4		12.1	ESE	4	SSE	5	V	1	S	9	CiSt	1- 3	CiSt	1- 3	Smoky in pm and evening
11	739.3	24.8	47	34.2	14.8		12.0	S	6	SSE	11	S	12	S	8		0		0	Heavy smoke through day
12	737.7	23.0	54	33.3	14.4		11.6	S	6	SSE	8	SW	10	SSW	8		0	CiSt	1- 3	Fog in am; smoky all day
13	737.5	21.1	55	22.7	14.6		9.6	SSW	6	SW	7	WSW	14	WSW	8	StCu; Cu	10- 4	Cu	1- 3	
14	738.3	20.6	60	25.2	16.2	0.02	4.3	WSW	9	SSW	15	SW	10	SSW	3	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	Rain in early am
15	740.7	19.7	67	26.9	13.0		3.8	WSW	1	WSW	2	SW	11	SW	5	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	Clear in evening
16	741.0	21.7	64	28.7	16.8		5.6	SSW	2	SSW	8	SSW	7	SSW	4	Cu	4- 6	Cu	6- 1	Clear in evening
17	742.2	23.0	63	36.7	15.4		12.1	SSE	4	SE	7	SE	1	SSW	4		0		0	Dew and fog in early am; smoky in evening
18	740.7	28.2	46	38.6	15.6		11.1	S	1	SSE	2	SSW	6	S	9		0	ASt; StCu	1- 3	Dew in am; fire in E and SE
19	741.9	22.7	63	34.3	14.5		12.0	SSE	8	SSE	6	SW	8	S	12		0		0	Dew in am; fires in E and N; some smoke
20	742.7	19.5	60	28.3	13.5		5.6	S	5	SSE	8	SSE	5	S	8	ASt; StCu; ACu	4- 6	ASt; StCu; ACu	4- 6	Hazy in am, probably smoke; dew in am
21	744.6	21.0	41	29.0	11.8		12.1	SSE	5	SE	13	SSE	7	S	9	Cu; StCu	1- 3	Cu; StCu; CiSt	1- 8	Smoky in evening
22	742.4	23.5	41	35.6	9.8		9.4	S	4	E	5	WNW	3	SW	6	Ci-CiCu; CiSt	9-10	ACu; ASt; ACuNb	9-10	Smoke in E and S
23	737.8	19.5	71	24.9	18.9		0.7	SW	1	WSW	7	W	17	WSW	14	Cu; CuNb	10	Cu; CuNb	10	Showers after 16h and in evening
24	742.6	17.7	54	24.4	8.7	0.08	10.0	SW	9	SSW	6	SSW	8	SSW	4	Cu; FrCu; St	7- 8	Cu; FrCu; St	6- 1	
25	744.3	19.4	54	29.9	7.1		11.0	SW	3	ESE	2	V	1	S	5	Ci; CiSt; CiCu	4- 6	Ci; CiSt; CiCu	4- 6	Dew in am
26	738.2	26.5	31	37.2	10.9		11.8	S	1	NNE	1	WNW	15	SW	8	Ci; ASt; CiSt	1- 3	Ci; CiCu; Cu; StCu	4- 6	Dew in am; fires in E
27	740.1	22.0	64	24.6	15.9		3.0	W	1	WNW	10	WSW	12	SSW	2	CuNb	10	CuNb; Nb	10	Dew in am; rain 13h-16h; clearing in evening; fog at night
28	745.6	18.8	57	29.1	9.9	0.06	11.8	S	2	E	4	S	3	S	8	FrCu	1- 3		0	
29																				
30																				
31																				
SUM						0.16														
MEAN	741.2	23.0	51	32.0	14.2		9.4	4.0		7.8		8.0		7.4						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 107

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[39	42	43	33	27	24	22	27	59	84	100	100	84	59	53	49	58	40	32	29	43	63	79	55]	52	0
2	✓	✓		[52	48	33	24	19	22	22	20	19	14	19	23	23	(24	33)	71	93	108	68	68	73	66	59	43]	44	0
3	✓			[42	46	45	43	52	68	60	76]	113	113	119	84	63	68	62	68	69	≷ 27	30	24	98≶	89	84	90	68	1
4	✓			100	111	113	138	127	113	129	154	185	170	153	113	100	100≶	76	10	32	90	138	141	84≷	138	141	[137]	116	2
5	✓	✓		[53	33	27	24	27	29	29	30	30	32	35	55]	66	71	79	73	72	84	93	126	[87	73	71	102]	58	0
6	✓	✓		113	131	113	118	135	137	119	[65	62	73	89	63	56	49	76]	113	130	131	130	116	120	130	138	131	106	0
7	✓	✓		137	127	142	152	162	148	150	126	130	129	129	137	133	130	126	[113	72	58	66	83	108	111	93	72]	118	0
8	✓	✓		[59	55	48	45	48	52	79]	119	138	141	129	87	69	83	102	112	116	119	[86	29	32	45	56	56]	79	0
9	✓	✓		[50	50	53	60	83	100	123]	195	216	211	195	141	150	141	148	157	152	116	116	[112	39	46	45	42]	114	0
10	✓	✓		[33	33	33	33	37	32	43	86]	124	166	207	190	167	169	159	162	[140	68	58	43	30	52	59	60]	91	0
11				[55	45	43	40	29	33	29	23	29	30	35	32	33	42	50	58	76	100	119	122	119]	—	—	—		0
12				—	—	—	—	—	—	—	—	—	—	[45	37	39	42	37	48	45	52	63	79	116]	144	144	141		0
13	✓	✓	✓	142	144	145	152	152	181	178	162	156	157	154	153	144	145	144	149	148	148	154	158	157	156	154	153	154	0
14	✓	✓		146	148	144	133	120	116	122	127	124	126	130	134	138	141	137	130	134	138	135	140	142	157	181	203	139	0
15	✓	✓	✓	216	220	238	236	220	173	178	191	179	167	163	166	162	154	142	111	112	148	162	166	169	162	162	157	173	0
16	✓	✓	✓	178	181	211	183	161	170	181	173	162	170	169	170	173	(167	165)	169	165	167	165	162	159	144	159	181	170	0
17	✓	✓	✓	171	146	152	145	142	145	162	178	170	166	126	104	101	109	111	115	130	120	113	127	135	144	141	138	137	0
18	✓	✓	✓	127	122	118	111	101	97	97	101	116	141	141	166	158	154	145	148	133	133	140	149	149	146	144	154	133	0
19	✓	✓		135	135	137	130	157	165	157	122	[86	55	60	62	72	82	101	100	138]	154	153	156	[137	115	90	112]	117	0
20	✓	✓		120	124	126	127	126	122	133	108	[69	55	60	78	75	93]	127	145	113	87	116	[109	100	104	111	112]	106	0
21	✓	✓		[113	111	108	104	94	84	94	94	94	91	115	111	68	72	100	113	90	68	100	141	75	82	105	108]	97	0
22	✓			[97	69	50	45	42	43	43	60	105]	145	157	154	149	144	138	[98	80	80	91	98	87	86	86	75]	93	0
23	✓	✓		[72	72	72	66	69	87]	113	123	127	130	137	131	138	(138	137)	135	133	119	113	112	115	115	129	127	113	1
24	✓	✓	✓	120	124	127	144	158	173	210	196	162	154	149	145	120	107	113	126	126	127	127	123	101	133	146	145	140	0
25				140	102	178	191	206	199	229	220	189	173	161	159	163	169	165	153	140	113	102	144	153	149	146	131		0
26	✓	✓		137	[127	95	86	90	86	94	131]	210	219	208	199	181	166	138	112	140	144	129	127	134	146	156	170	143	0
27	✓	✓		183	194	198	192	(199	206)	211	154	140	149	154	148	141	138	146	134	133	133	130	135	145	158	157	171	160	1
28	✓	✓		163	167	173	171	[187	163	207]	199	175	153	150	146	157	153	142	130	108	113	[60	72	80	78	95	105]	139	0
29																													
30																													
31																													
MEANS * 25 DAYS				112	110	110	108	109	109	118	121	126	128	130	122	116	114	116	114	113	109	108	110	104	110	114	116	114	
MEANS † 21 DAYS				120	119	119	116	118	118	129	129	128	129	129	124	119	118	122	125	123	118	115	117	109	113	117	121	121	
MEANS ‡ 7 DAYS				156	152	162	160	157	155	165	161	154	155	147	149	142	138	135	133	135	139	142	143	141	145	149	151	149	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 108

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[28	27	22	17	17	17	14	15	36	56	(55	53	50)	49	45	41	45	31	25	20	31	48	52	42]	35	0
2	✓	✓		[41	34	18	15	14	17	20	15	15	14	18	20	24	17	(31	56)	82	87	52	55	55	59	42	38]	35	0
3	✓			[39	35	32	35	42	52	56	71]	109	112	118	77	56	66	56	60	56	≷ 20	38	45	95≷	91	70	77	63	1
4	✓			74	83	87	105	97	91	108	137	188	166	160	106	95	94	78	≷ 136	163	91	70	86	122≷	113	113	[113]	112	2
5	✓	✓		[42	25	17	17	17	17	22	25	24	20	27	41]	55	53	67	64	66	74	83	105	[70	57	55	73]	46	0
6	✓	✓	✓	77	98	91	86	95	108	101	[50	39	55	73	56	48	39	67]	109	118	122	109	89	91	89	99	101	84	0
7	✓	✓		97	98	102	93	106	109	109	116	120	124	126	137	140	138	137	[124	60	43	56	67	87	97	73	56]	101	0
8	✓	✓		[50	41	36	28	36	38	60]	120	134	142	137	86	70	75	99	112	114	122	[75	22	27	35	43	46]	73	0
9	✓	✓		[39	32	36	42	59	79	112]	188	221	213	201	137	147	158	(155	150)	146	97	98	[85	31	36	34	28]	105	0
10	✓	✓		[22	(22)	22	18	15	20	28	70]	117	159	193	181	163	163	150	144	[125	56	46	41	28	39	43	45]	87	0
11				[34	34	28	27	21	18	15	14	27	28	35	27	32	36	42	42	66	94	113	106	95]	—	—	—		0
12				—	—	—	—	—	—	—	—	—	—	[42	32	31	32	31	39	42	43	52	60	94]	124	122	122		0
13	✓	✓	✓	116	118	112	104	87	112	132	130	137	141	150	155	167	163	162	153	146	140	138	137	136	132	125	124	134	0
14	✓	✓		136	129	126	108	83	89	91	108	121	121	125	136	132	141	137	132	124	122	121	112	97	98	125	160	120	0
15	✓	✓	✓	176	186	213	222	212	146	144	185	169	168	168	168	186	159	136	97	108	126	141	134	124	114	121	99	154	0
16	✓	✓	✓	134	138	175	142	117	116	142	151	151	160	163	176	180	175	(172	175)	167	164	154	136	126	112	124	150	150	0
17	✓	✓	✓	149	136	114	113	114	106	136	171	169	151	112	87	93	89	91	98	109	110	109	109	108	113	113	110	117	0
18	✓	✓	✓	108	102	97	90	86	82	83	90	110	138	133	156	163	168	158	158	129	124	120	124	122	122	116	110	120	0
19	✓	✓		112	113	113	95	101	94	108	104	[74	43	29	45	57	79	97	102	126]	151	149	126	[112	97	73	95]	96	0
20	✓	✓		97	98	105	104	93	99	120	109	[70	48	48	67	77	93]	124	145	110	85	110	[90	83	85	97	99]	94	0
21	✓	✓		[98	86	74	78	71	63	77	81	87	86	106	108	64	70	98	118	89	62	97	129	60	77	101	98]	87	0
22	✓			[83	56	42	35	34	(34	34)	50	98]	136	149	146	140	140	132	[89	70	70	78	73	69	66	67	59]	81	0
23	✓	✓		[46	55	55	50	46	71]	97	113	126	128	133	129	137	137	(137	129)	126	126	104	102	104	104	113	108	103	1
24	✓	✓	✓	98	98	105	108	126	151	181	171	156	150	142	145	126	105	117	130	124	124	116	102	86	97	128	[126]	126	0
25				—	—	—	—	—	—	—	—	—	158	154	151	160	173	171	151	129	95	87	129	142	138	136	116		0
26	✓	✓		108	[98	74	45	63	63	66	97]	193	203	217	218	198	189	154	118	142	134	116	109	110	122	124	130	129	1
27	✓	✓		151	168	176	172	167	184	188	145	146	146	159	163	159	150	151	121	128	120	121	109	105	113	124	138	146	0
28	✓	✓		150	137	140	136	[142	128	177]	179	180	149	138	150	159	160	150	129	108	108	[64	60	66	69	77	91]	127	0
29																													
30																													
31																													
MEANS * 25 DAYS				91	89	87	82	82	83	96	108	120	121	123	118	115	115	116	116	111	100	96	91	86	87	90	93	101	
MEANS † 21 DAYS				97	96	95	89	88	90	104	115	122	122	124	122	121	120	123	122	117	109	104	97	87	89	93	96	106	
MEANS ‡ 7 DAYS				125	125	131	125	121	117	132	145	145	147	142	146	151	142	139	131	129	130	127	119	113	111	118	117	130	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 109

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		128	132	132	146	138	143	138	124	102	89	81	68	77	81	77	77	[110	123	114	102	102	128	132	130]	111	0
2	✓			[146	142	136	146	190	185	153	112]	89	86	81	84	84	74	[79	106	118	142	158	165	170	170	170	153]	131	0
3	✓	✓		[123	97	142	165	255	243	307	170]	124	120	114	108	97	95	97	[114	158	146	185	267	263	263	247	205]	171	0
4	✓	✓		[177	162	133	181	290	282	210	142	133	130	108	106	110	120	130	133	130	126	114	150	170	158	138	162]	154	0
5				[186	208	208	170	146	123	110]	89	72	79	81	81	77	97	95	93	95	102]	97	[142	223	309]	—	—		0
6	✓	✓		[275	397	363	267	183	136	97]	79	70	74	100	86	91	70	72	77	[93	42	77	81	50]	[148	130	158]	134	0
7				[136	153	202}	N150	Z	Z }	[196	223	153	95	130	124	163	253	177	132	142	148	153	153	146	162	177	158]		1
8	✓	✓		[162	235	342	290	126]	100	95	86	68	77	97	102	97}	82	N 27	N 36	42	N 38	89	140	114}	116	104	93	115	1
9	✓	✓		89	89	89	86	108	106}	91	68	N 27	55	68	N 46	42	N 4	−42	N 36	N 50	63	81	70	55	93	93	100}	65	1
10	✓	✓		84	50	36	42	59	N 0	−23	N 72	N 13	72}	77	68	77	89	110	142	97	89	102	106	93	N 77	68	68}	70	1
11	✓	✓	✓	97	93	106	97	114	126	138	162	152	132	142	123	118	118	126	123	130	133	136	126	112	102	102	106	121	0
12	✓	✓	✓	118	123	130	77	72	84	84	72	89	84	79	82	79	86	100	112	100	93	86	89	91	95	95	89	92	0
13	✓			93	108	86	89	89	89	81	106	138	106	108	106	112	108	124	126	114	116	108	146	132	114	114	130	110	0
14	✓	✓		[155	167	171	175	190	173	163	106]	81	77	72	77	89	89	114	89	112	91	[339	265	200	265	288	275]	159	0
15	✓	✓		[249	193	162	114	93]	81	59	59	68	70	77	79	82	81	84	89	95	[165}	138	N 77	223}	[253	213	212]	126	1
16	✓	✓		[170	173	165]	110	89	102	[114	114	126]	110	104	93	97	116	120	126	130	128	123	126	133	133	123	118	123	0
17				} Z	Z	93	95	128	138	150	106	100	89}	100	95	110	[108	140	150	160	167	162	175	188	190	175	206]		1
18	✓	✓		[183	143	133	128]	106	84	77	93	86	84	81	89	89	95	95	100	104	106	110	124	138	150	146	126	111	0
19				110	110	126	114	97	—	—	—	63	63	66	63	74	93	93	97	95	97	104	123	126	110	110	95		0
20	✓	✓	✓	89	74	70	68	70	61	61	55	55	55	59	63	68	72	77	81	81	81	89	110	114	106	114	93	78	0
21	✓	✓	✓	100	89	86	74	84	81	70	68	70	63	63	68	70	74	81	95	91	106	110	126	110	114	102	93	87	0
22	✓	✓	✓	77	72	81	68	68	63	55	55	59	61	63	72	74	77	72	86	82	91	89	97	114	106	97	89	78	0
23	✓	✓	✓	84	77	77	68	66	63	59	59	61	86	93	84	86	89	84	84	81	77	84	[93	120	128	102]	89	83	0
24	✓	✓	✓	81	72	72	74	74	70	66	57	61	61	66	72	68	72	74	74	82	74	68	77	81	84	84	77	73	0
25	✓	✓	✓	72	72	81	89	84	77	72	68	68	72	68	68	68	74	70	72	68	70	70	72	81	110	102	93	77	0
26	✓	✓		89	68	55	63	55	50	50	55	63	74	68	61	61	68	63	68	74	[84	126	181	196	208	123	193]	92	0
27				[142}	N 72	N 55	50	84	Z	Z	N 42	89	89}	63	63	72	72	81	89	93	89	93	89	106	123	106	106		1
28	✓	✓		114	114	[138	114	165	153	102	143]	97	91	93	84	72	81	81	81	82	82	74	70	72	93	91	86	99	0
29	✓	✓		79	77	84	77	70	79	63	63	61	55	59	59	66	79	77	82	82	89	[133	173	177	138	120	132]	91	0
30				102}	74	Z	N124}	93	86}	97	104}	95	104	97	86	93	89	93	74	89	118	104	102	106	91	93	77		1
31	✓	✓		[44	34	32	27	34	81	114	55	63]	N 72	N 48	130}	102	93	89	91	97	86	100	93	74	79	74	77	75	1
MEANS * 25 DAYS				123	122	124	113	115	108	100	90	81	82	83	83	83	83	83	92	96	98	116	125	127	137	127	126	105	
MEANS † 23 DAYS				123	122	125	113	113	106	98	88	78	81	82	82	82	83	82	90	94	95	115	122	125	137	126	125	104	
MEANS ‡ 8 DAYS				90	84	88	77	79	78	76	74	77	77	79	79	79	83	86	91	89	91	92	99	103	106	100	91	86	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER }}=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VAL

TABLE 110

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.9	23.2	41	34.7	10.0		11.6	SSE	3	ESE	3	SSW	4	S	6	CiSt	1- 3	CiSt	4- 6	Smoky in late pm
2	742.2	24.0	51	36.1	14.7		11.6	S	6	ESE	5	SW	8	S	8	CiCu; CiSt	7- 8		7- 8	Fog or dew early; smoke smell in pm
3	741.6	21.7	64	34.9	14.8		11.5	S	1	SE	7	SSW	3	S	9		0		0	Fog early; smoky all day
4	743.0	23.3	46	31.3	14.6		7.6	S	6	ESE	11	SE	12	S	9	CiSt	7-10	CiSt	7-10	Possibly smoky during day
5	744.6	22.4	44	33.7	14.6		11.4	SSE	6	ESE	12	ESE	4	S	6	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	Smoky in evening
6	740.7	30.7	28	40.3	15.8		10.1	S	3	NNE	7	NW	6	SSW	2	Cu	1- 3	Cu; FrCu	7-10	Smoky in pm; fires on all sides
7	739.7	23.3	45	30.3	19.9		4.3	SW	3	S	10	SSW	7	S	9	ACu; StCu; ASt	7-10	ACu; StCu; ASt	7-10	Smoky in E
8	742.7	20.1	51	28.1	15.2		7.0	S	6	ESE	17	ESE	21	E	14	ASt; ACu	7-10	ASt; ACu	7-10	Threatening weather in evening
9	742.5	15.9	80	17.8	15.0	0.07	0.0	E	14	E	6	ESE	12	E	6	CuNb; Nb	10	CuNb; Nb	10	Raining all day
10	737.8	16.8	97	26.2	15.2	0.24	5.4	V	6	SSW	7	SSE	4	S	3	CuNb; Cu	9-10	CuNb; Cu	7-10	Raining during am; few drops rain at night
11	739.8	20.6	67	27.1	16.6	T	6.2	S	3	SE	4	SSE	6	S	5	Cu	9- 6	Cu	5- 1	Clear in evening
12	740.9	20.2	67	26.7	12.7		8.4	S	2	S	4	SSW	10	SSW	7	Cu; FrCu	7- 8	Cu; FrCu	6- 1	Dew early; clear in evening
13	744.8	18.3	51	25.1	10.0		11.1	..	0	SE	11	V	3	S	10	FrCu; StCu	4- 6	FrCu; StCu	1- 3	Heavy dew early; hazy in am
14	744.0	19.8	48	33.4	8.8		11.1	SW	3	ESE	6	V	1	SSW	7		0		0	Fires in E; very smoky after 17h
15	740.3	29.2	40	38.1	14.4		8.0	S	2	NNE	10	NW	3	SSE	1	Ci; CiCu; ASt; ACu	4- 6	CiCu; ASt; ACu; Cu	7- 8	Smoke smell in evening; thunder in E
16	739.4	22.8	70	31.5	16.2		8.4	WNW	1	SSW	2	WSW	10	SW	5	CiSt; CiCu; ASt; ACu	4- 6	CiSt; CiCu; ASt; ACu	4- 6	Fog early; air smoky; lightning in N and E
17	743.2	15.6	97	23.8	15.5	0.04	6.8	SW	1	S	9	S	15	SSE	11	CuNb; Nb	10	CuNb; Nb	10- 1	Rain until midday; clear in evening
18	746.0	17.2	52	26.9	10.5	T	11.1	ESE	5	E	17	ESE	14	SE	6		0		0	Fires in WSW; smoky in evening
19	745.1	21.3	48	28.8	13.7		10.4	ESE	6	ENE	15	E	10	E	9	Ci; CiSt	7- 8	Ci; CiSt	7- 8	Smoke smell in evening
20	745.4	22.2	50	27.2	16.7		10.7	E	1	ENE	14	E	14	ESE	7	Ci	1- 3		0	
21	745.3	20.4	51	29.1	15.3		10.8	E	9	E	18	ESE	14	ESE	6		0		0	Fires in S and SW
22	742.8	21.6	48	28.9	15.8		11.0	ENE	11	ENE	16	E	15	E	7		0		0	
23	743.7	22.2	54	30.1	16.3		10.6	E	10	ENE	19	ENE	11	E	5		0		0	Thin haze all day; fires in NE and SE
24	745.5	22.8	49	30.3	17.1		10.4	E	11	ENE	16	ENE	12	ENE	7	Ci; CiSt	4- 6	Ci; CiSt	1- 3	
25	744.6	22.6	44	30.1	16.0		7.1	ENE	8	NE	17	ENE	7	ENE	5	Ci; CiSt; CiCu; StCu	4- 6	Ci; CiSt; CiCu; StCu	4- 6	
26	741.1	23.6	32	32.0	16.5		2.5	NNE	1	NNE	9	WNW	1	E	3	ASt; ACu; StCu	7-10	ASt; ACu; StCu	7-10	Smoky in evening
27	740.6	19.5	91	26.1	17.8	0.12	3.6	SSE	2	NNW	1	SW	12	SSW	4	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	Light rain very early
28	744.5	19.0	69	25.8	11.1	0.01	8.1	SSW	2	SE	5	SE	7	SSE	4	FrCu	4- 6	FrCu	4- 6	Clear in evening
29	744.5	18.7	66	31.4	12.5		10.8	ESE	7	E	11	V	2	SW	3	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Much Cu in evening; slight smoke smell
30	741.5	19.4	86	24.8	14.4	0.02	0.6	..	0	..	0	WNW	2	SW	5	CuNb; Nb	10	CuNb; Nb	8-10	Heavy rain at 2h; fog until 8h5
31	739.7	19.9	60	23.2	8.3		6.4	NNW	1	NNW	11	W	19	..	0	Cu; CuNb	7-10	Cu; CuNb	7-10	Heavy fog early; few drops rain in am
SUM						0.50														
MEAN	742.6	21.2	58	29.5	14.4		8.2		4.5		9.7		8.7		6.1					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 111

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		109	113	107	100	107	104	115	124	149	167	167	161	153	161	157	153	[58	66	98	126	124	113	118	101]	123	0
2				[83	126]	—	—	—	—	—	—	93	100	101	89	89	(100	101)	[82	83	56	58	78	94	91	91	95]		0
3	✓	✓		[100	94	86	72	59	60	46	86]	108	113	104	100	124	130	124	[90	59	86	69	42	46	45	49	60]	81	0
4	✓	✓		[66	59	60	56	45	46	52	75	91	73	90	72	56	58	63	59	30	30	42	46	40	46	46	49]	56	0
5	✓			[52	52	60	79	94	100	111]	123	162	141	119	127	129	112	112	113	101	83	72	[56	39	37	40	40]	90	0
6	✓	✓		[42	43	46	71	100	133	173]	233	236	177	130	156	157	159	156	145	[39	62	59	58	118	73	63	78]	113	0
7	✓			[94	91	86	60	76	60	55	46	73	73	73	72	48	17	37	75	68	37	60	100	102	86	58	45]	66	1
8	✓	✓		[37	27	27	35	73]	73	71	84	111	100	86	75	71	73	76	76	86	100	82	84	98	122	182	194	85	1
9	✓	✓		216	220	227	219	177	158	167	195	186	195	183	156	167	(167	145)	183	175	185	177	182	204	200	195	206	187	1
10	✓	✓		220	221	231	212	204	192	183	186	167	187	192	182	169	163	181	195	178	182	159	156	195	182	185	194	188	1
11	✓	✓	✓	199	192	159	144	145	123	116	101	93	94	82	73	107	108	113	104	104	98	97	107	129	142	158	142	122	0
12	✓	✓	✓	138	131	135	156	127	146	166	179	154	(149	149)	148	144	144	107	141	157	156	163	167	167	175	194	208	154	0
13				199	182	207	221	207	195	208	126	107	120	119	93	89	94	95	91	97	87	89	86	101	124	127	118		0
14	✓	✓		[98	94	95	87	90	91	113	178]	217	257	244	233	222	221	211	207	207	207	[56	62	87	63	68	68]	145	0
15	✓	✓		[76	90	112	145	195]	210	265	312	243	211	195	181	167	156	163	174	165	[66]	≷ 87	94	30 ≶	[36	45	49]	144	1
16	✓	✓		[68	69	91]	111	97	105	(104	102)	100	126	129	138	133	113	112	112	127	141	148	158	158	169	174	167	123	0
17	✓			≷127	137 ≶	191	173	169	159	154	154	148	144	138	133	131	[124	98	76	72	79	76	82	84	86	94	72]	121	1
18	✓	✓		[89	100	112	126]	141	156	173	191	175	166	152	138	126	109	111	112	116	111	89	83	86	75	84	107	122	0
19	✓			127	131	124	138	169	203	206	233	231	212	191	189	[145	89	118	124]	119	98	98	84	101	127	133	162	148	0
20	✓	✓	✓	185	208	234	245	248	259	261	263	249	236	204	181	162	159	127	113	91	86	113	86	86	111	111	130	173	0
21	✓	✓	✓	162	182	181	207	216	233	248	261	245	249	234	216	204	185	167	152	140	131	104	105	152	173	216	219	191	0
22	✓	✓	✓	243	229	221	235	244	275	297	300	278	248	198	154	157	133	137	141	137	131	134	130	169	202	208	244	202	0
23	✓	✓	✓	258	275	288	307	322	335	345	329	266	195	165	181	181	(165	156	163)	178	170	154	[130	119	137	189]	221	218	0
24	✓	✓	✓	238	272	276	257	247	258	283	296	261	243	221	202	183	171	140	124	149	154	170	144	156	194	198	224	211	0
25	✓	✓	✓	236	242	229	231	238	247	244	238	206	199	194	195	190	183	195	192	191	190	187	208	224	219	219	222	213	0
26	✓	✓		243	258	277	275	295	312	313	309	259	210	194	175	169	137	141	163	167	[144	97	59	75	69	109	83]	189	0
27	✓			[97]	≷141	113	157	133	140	159	154 ≶	152	159	175	145	156	153	149	157	148	154	156	154	141	133	149	159	147	1
28	✓	✓		156	167	[134	120	83	93	131	102]	154	157	154	157	158	159	157	163	167	156	167	190	195	173	185	194	153	0
29	✓	✓		217	226	215	229	229	230	235	254	266	257	238	233	219	204	194	175	175	179	[104	72	66	91	122	131]	190	0
30	✓			146	≷181	146 ≶	146	181	194	≷179	127	154 ≶	138	141	133	140	(130	124)	129	124	118	141	138	120	[116	178	154]	145	1
31	✓	✓		[170	208	181	221	179	200	182	312]	281	210	165	157	144	153	156	157	161	158	149	158	181	217	222	229	190	1
MEANS * 29 DAYS				145	154	153	159	161	169	177	191	187	175	162	154	149	139	135	137	127	123	114	112	120	125	138	143	148	
MEANS † 23 DAYS				155	162	162	168	168	176	186	205	195	183	168	159	155	148	143	143	133	130	118	115	126	132	145	153	156	
MEANS ‡ 8 DAYS				207	216	215	223	223	234	245	246	219	202	181	169	166	156	143	141	143	140	140	135	150	169	187	201	186	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 112

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		87	81	79	73	(79	86	93)	114	145	150	153	155	151	159	158	150	[59	59	94	116	114	98	101	86]	110	0
2				[71	74	66	56	39	43	50	66]	91	89	89	75	78	97	(101)	[75	74	55	50	66	71	70	71	70]		0
3	✓	✓		[74	71	46	45	36	39	31	69]	90	95	91	90	110	121	116	[90	55	77	56	28	31	35	39	46]	66	0
4	✓	✓		[50	52	52	43	31	31	42	66	73	69	89	69	55	52	56	52	28	34	42	41	35	41	42	39]	49	0
5	✓			[35	36	41	60	82	91	99]	126	162	137	120	124	130	109	104	108	94	81	66	[46	29	25	27	32]	82	0
6	✓	✓		[32	22	29	45	75	108	154]	215	227	168	122	159	163	169	166	150	[36	60	55	56	110	57	59	64]	104	0
7	✓			[74	73	56	53	45	70	46	43	64	63	66	62	38	18	36	70	60	34	53	85	85	70	50	35]	56	1
8	✓	✓		[31	25	17	28	70]	71	64	85	108	97	81	73	73	75	79	81	89	101	83	83	105	118	171	184	83	1
9	✓	✓		199	206	210	213	166	153	168	217	231	223	190	179	196	(192	188	184)	180	190	167	173	194	188	184	189	191	1
10	✓	✓		202	213	216	197	188	213	199	172	167	177	181	179	162	151	164	164	167	171	147	144	166	168	177	180	178	1
11	✓	✓	✓	162	154	137	122	113	99	79	79	74	73	70	70	97	97	98	97	86	83	74	85	108	124	124	117	101	0
12	✓	✓	✓	101	98	97	109	124	117	132	160	144	146	136	137	149	153	102	126	150	151	140	136	137	137	145	(155]	133	0
13				—	—	—	—	—	—	—	—	—	114	121	97	85	91	83	71	83	75	73	73	94	112	114	94		0
14	✓	✓		[74	71	67	59	62	70	83	163]	221	247	247	226	213	213	182	201	175	180	[45	57	70	48	46	50]	128	0
15	✓	✓		[55	70	94	129	175]	192	255	286	249	216	190	185	160	153	167	179	163	[56}	79	85	27}	[31	39	42]	137	1
16	✓	✓		[42	56	71]	91	94	95	104	98	97	105	109	129	124	110	(102	98)	110	112	117	128	116	109	122	130	103	0
17	✓			{156	144}	132	137	130	113	124	133	128	136	136	132	125	[120	87	69	64	69	71	69	70	64	69	64]	106	1
18	✓	✓		[75	86	91	108]	114	134	153	181	175	153	151	140	132	114	114	112	110	101	86	79	77	64	70	95	113	0
19	✓			110	112	112	128	156	189	203	231	247	227	202	198	[150	97	122	125]	126	105	101	85	98	122	125	150	147	0
20	✓	✓	✓	173	201	226	240	241	254	262	277	265	250	212	197	176	160	137	125	94	91	110	83	82	91	97	112	173	0
21	✓	✓	✓	158	172	171	202	203	227	255	261	245	256	249	227	216	194	179	154	140	125	108	102	137	155	194	207	189	0
22	✓	✓	✓	234	220	215	223	228	272	302	305	292	267	210	158	162	137	144	142	140	122	124	121	147	176	193	218	198	0
23	✓	✓	✓	242	264	275	300	314	327	340	342	283	203	171	184	189	171	(179	168)	168	171	147	[120	99	114	173]	210	215	0
24	✓	✓	✓	227	262	265	254	240	251	278	305	282	262	240	215	199	177	141	120	138	150	158	134	146	176	188	212	209	0
25	✓	✓	✓	227	216	202	207	210	217	217	222	202	194	194	194	152	186	193	189	189	180	173	189	201	188	186	202	197	0
26	✓	✓		215	220	245	240	256	277	283	281	262	205	206	176	171	141	138	146	137	[134	83	43	60	48	81	57]	171	0
27	✓			[81}	137	118	147	124	124	163	154	128	142}	175	145	147	150	142	142	122	137	126	120	106	101	118	121	132	1
28	✓	✓		124	125	[99	106	67	70	90	70]	144	149	145	150	168	163	163	167	163	142	144	155	160	138	151	164	134	0
29	✓	✓		190	211	212	223	230	211	226	244	269	267	252	249	223	203	197	163	164	160	[94	60	55	81	105	105]	185	0
30	✓			116	{150	102	122}	160	177	{145	102	125}	122	121	113	106	124	(120	120)	113	99	113	120	106	[101	122	110]	121	1
31	✓	✓		[129	177	179	232	180	192	179	325]	288	212	166	150	151	162	164	159	149	145	126	122	162	184	193	196	180	1
MEANS * 29 DAYS				127	135	133	143	145	154	164	184	186	173	161	154	148	140	136	133	120	114	103	99	105	105	117	123	138	
MEANS † 23 DAYS				135	142	143	152	152	161	173	197	197	182	168	160	156	150	145	140	126	122	107	102	110	112	125	133	146	
MEANS ‡ 8 DAYS				190	198	198	207	209	220	233	244	223	206	185	173	168	159	147	140	138	134	129	121	132	145	162	179	177	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 113

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			70	49	47	61	45	40	36	45	45	59	79	70	81	84	82	79	84	93	102	107	[124	144	128	86]	77	0
2	✓			93	103	116	112	89	107	107	100	61	72	74	77	81	86	82	74	100	70	63	[91	203	368	233	93]	111	0
3				82	63	51	51	49	40	38	45	45	49	57	66	74	77	70	81	[128	221	172	199	261	Z+	Z+	218]		0
4				[267	221	136]	91	91	74	55	100	[152	116	100]	86	86	82	82	79	[124	132	196	228	126]	79	N 45	Z			1
5				Z	93	91	116	Z	Z	Z	Z	Z	Z	Z	82	79	Z	86	95	[140	144	144	132	156	148	116	107]			2
6				100	91	74	148	228	Z	Z	Z	Z	112	95	100	107	116	128	124	156	160	144	148	172	188	148	128			1
7	✓	✓		144	138	152	171	140	116	107	N 66	N 72	97	97	95	103	118	109	114	112	109	112	112	112	100	91	79	111	1
8	✓			70	61	66	53	49	45	45	70	93	102	102	103	102	107	112	114	109	[116	166	201	296	286	282	191]	123	0
9	✓			[265	206	168	144	148	128]	112	114	100	97	100	89	116	107	114	107	130	105	109	105	97	70	68	63	119	0
10	✓	✓	✓	68	63	59	68	55	43	43	45	77	70	79	86	103	82	100	100	119	[164	144	138	112	144	166	109]	93	0
11	✓			121	130	128	116	119	107	103	102	81	61	57	53	49	66	61	63	66	72	[208	231	206	172	130	148]	110	0
12	✓	✓		[148	171	172	194	162	160	144	86]	53	55	55	61	74	79	91	91	97	86	[140	231	168	144	164	148]	124	0
13	✓	✓		[172	190	174	146	116	103	72]	66	57	51	47	45	45	45	45	57	65	63	47	66	N 45	116	103	107	85	1
14				93	N 95	70	68	68	86	Z	66	61	49	Z	Z	Z	Z	Z	−23	Z	53	40	53	61	66	57	82		2
15				79	70	68	74	70	68	57	N 9	74	70	72	79	79	77	(81)	86	Z	Z	66	47	45	86	N 27	49		1
16				61	N 21	N 45	N 30	−45	−126	Z	−79	57	103	61	32	30	59	61	68	63	66	84	86	82	74	86	Z		2
17				Z	103	103	86	66	53	57	57	70	70	70	66	49	61	53	53	57	61	61	66	61	66	66	61		1
18	✓	✓		61	57	61	61	53	45	66	66	61	49	N 27	82	61	53	53	53	57	57	61	61	49	61	53	57	57	1
19				57	74	N 70	95	112	89	97	103	84	91	Z	74	66	72	89	Z	N 40	Z	66	81	72	Z	N 77	72		1
20				N 30	74	Z	86	N 86	86	Z	91	100	N 95	N 82	N 82	82	95	86	95	82	86	72	79	70	77	57	59		1
21	✓	✓		63	51	47	45	63	47	51	61	70	81	59	66	70	61	66	66	68	68	74	84	81	82	82	154	69	0
22				133	103	124	119	152	102	114	146	121	84	97	N 72	Z	91	79	81	79	86	95	93	100	100	95	100		1
23	✓	✓	✓	91	61	74	86	82	70	79	79	86	79	66	89	79	72	68	72	81	70	74	61	74	70	79	61	75	0
24				74	61	57	57	45	36	40	61	79	70	66	74	61	61	57	53	53	57	—	—	—	45	47	66		0
25	✓	✓	✓	66	49	40	43	40	32	27	36	40	45	53	49	53	53	57	63	63	70	68	68	63	53	49	45	51	0
26	✓	✓		[53	119	95	95	82	107	36	32	116	68]	45	61	57	61	79	68	77	81	68	68	70	74	82	70	74	0
27				49	45	45	59	N 61	105	N 72	93	Z	Z	Z	Z	Z	81	70	133	Z	79	79	86	Z	Z	102	81		1
28				70	70	68	77	68	66	70	91	86	86	74	82	74	Z	148	112	119	107	100	100	82	95	103	103		1
29	✓	✓	✓	107	100	86	95	95	82	82	79	89	86	91	100	103	100	95	82	107	103	112	124	95	74	86	95	96	0
30	✓			86	79	107	112	105	84	84	93	102	93	97	97	93	102	93	89	84	82	86	84	82	86	84	102	92	0
31																													
MEANS * 16 DAYS				105	102	100	100	90	82	75	71	75	73	70	76	79	80	82	81	89	88	102	114	117	128	118	100	92	
MEANS † 10 DAYS				97	100	96	100	89	80	71	62	72	68	62	73	75	72	76	77	84	87	90	101	87	92	96	92	83	
MEANS ‡ 4 DAYS				83	68	65	73	68	57	58	60	73	70	72	82	88	83	84	81	95	87	91	90	82	67	70	66	76	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 114

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	742.2	17.5	72	27.8	7.1	0.05	9.8	..	0	N	2	WSW	3	SSW	3	CiSt; StCu	1- 3	CiSt; StCu	1- 3	Dew early, perhaps fog
2	744.1	22.6	47	33.1	10.9		9.9	S	3	ENE	2	NE	2	SSW	3	Ci; CiSt	4- 6	Ci; CiSt	4- 6	Dew, mist, early; smoky in pm
3	741.7	26.3	34	36.4	15.0		9.0	..	0	NNE	5	WNW	15	SSW	1	CiSt; StCu; FrCu	4- 6	CiSt; StCu; FrCu	4- 6	Smoky in pm; fires in S
4	743.4	23.3	47	32.9	12.0		5.2	..	0	..	0	..	0	SSW	5	CiSt	4- 6	ASt; ACu; CuNb	4- 6	Smoky all day; possibly fog early
5	742.6	23.3	89	30.7	19.7	0.11	3.2	SSW	2	N	3	SW	7	SSW	3	ACu; ACuNb; CiSt	7-10	ACu; ACuNb; CiSt	7-10	Thunderstorm and lightning early in am
6	746.1	22.0	71	30.7	17.8	0.01	5.6	..	0	S	5	SW	3	S	6	CiCu; ACu; CuNb	7-10	CiCu; ACu	7-10	Light rain very early
7	744.1	19.5	65	23.1	15.8		0.0	S	1	SSE	3	SW	6	SW	2	CiSt; CiCu; ASt; Acu	9-10	CiSt; CiCu; ASt; ACu	9-10	
8	744.6	20.9	56	27.2	11.7		8.5	..	0	SW	2	SW	4	S	2	CiSt; CiCu; Cu	7-10	CiSt; CiCu; Cu	7-10	Smoky in evening
9	743.7	17.5	66	25.9	10.2		5.5	S	2	..	0	SW	7	SW	1	CiSt; CiCu; ACu	7-10	CiSt; CiCu; ACu	7-10	
10	744.3	20.0	61	27.7	11.0		7.8	..	0	SSW	3	SSW	3	S	6	CiSt; CiCu; Cu	7- 8	CiSt; CiCu; Cu	7- 8	Smoky at $17^h.5$
11	744.9	17.3	61	29.4	10.4		5.2	SSE	3	SE	4	SSE	2	S	5	CiCu; ACu; StCu	4- 6	CiCu; ACu; StCu	4- 6	Smoky in evening
12	742.9	22.8	45	34.9	9.8		10.2	S	4	E	1	S	1	S	5		0		0	Smoky at 19^h
13	743.2	24.0	38	35.7	13.7		7.5	S	4	ESE	6	E	5	E	4	Cu; FrCu	4- 6	Cu; FrCu; CuNb	7- 8	Overcast in evening; few drops rain at 21^h
14	744.6	23.0	45	24.4	20.9	T	0.0	ENE	8	E	6	NNE	5	ENE	3	CuNb; Nb	10	CuNb; Nb	10	Raining
15	742.6	19.0	82	25.6	16.6	0.24	1.5	N	4	NNE	3	N	6	..	0	CuNb; Nb	7-10	CuNb; Nb	7-10	Rain at intervals
16	740.0	16.5	98	21.0	15.4	0.72	0.3	N	4	NNE	1	N	8	NNE	4	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Heavy rain early
17	739.6	17.6	78	21.8	13.2	0.18	5.7	W	2	NW	5	WNW	13	WSW	2	Cu; CuNb	4- 6	Cu; CuNb	4- 6	Heavy rain early
18	740.5	17.4	91	22.7	12.4	0.02	2.4	WSW	1	SSW	1	W	8	NW	1	CuNb	7-10	CuNb	7-10	Heavy fog or mist early; rain in am
19	735.5	15.0	73	17.2	12.8	0.13	3.2	WNW	10	WSW	10	WSW	17	W	2	CuNb; Nb	7-10	CuNb; Nb	7-10	Mist early; showers during day and evening
20	738.8	12.6	60	17.2	7.7	0.12	7.4	W	5	SSW	6	SW	12	..	0	Cu; CuNb	4- 6	Cu; CuNb	4- 6	Rain in am and evening; clearing at night
21	740.9	13.9	74	18.1	7.6	0.02	4.6	..	0	WNW	6	WSW	10	NW	2	ASt; StCu; CuNb	7-10	ASt; StCu; CuNb	4- 6	Dew early; few drops rain in am; clearing in evening
22	735.4	15.8	94	20.5	11.5	0.08	5.6	WNW	9	WSW	15	SW	23	SW	8	CuNb; Nb	10	CuNb; Nb	10	Frequent showers; CiSt in evening
23	738.7	13.8	80	18.4	11.5	0.07	3.1	WSW	6	SW	11	SW	16	SSW	2	CuNb; Nb	4- 6	CuNb; Nb	4-10	Few drops rain in am and evening
24	744.2	15.8	91	22.3	11.8	0.02	3.4	..	0	..	0	S	3	..	0	CuNb; Nb	10	Cu; FrCu; CuNb	10- 3	Mist-like rain all am; clear in evening
25	742.8	17.5	70	28.4	8.5	0.01	9.9	..	0	NNE	2	WNW	5	SSW	1		0		0	Frost in am
26	740.9	14.9	96	24.6	11.8		4.9	..	0	..	1	WSW	3	WSW	3	Cu	4- 6	Cu	4- 6	Heavy mist till $9^h.5$
27	735.8	16.2	86	17.2	11.0	0.12	4.1	NNW	1	W	6	WSW	20	SW	10	Cu; CuNb	7- 8	Cu; CuNb	7- 8	Rain at intervals
28	739.1	12.3	87	17.1	7.2	0.20	4.2	NSW	2	WSW	10	SW	18	SSW	4	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Frequent rain squalls
29	746.9	11.5	62	17.1	4.7	0.08	6.6	WSW	2	ESE	4	SSE	10	SSW	3	FrCu; StCu	4- 6	FrCu; StCu	4- 6	Dew early
30	749.8	11.9	72	24.1	4.0		7.6	SSW	2	..	0	SSE	6	SSW	2	Cu	1- 3	Cu	4- 9	Heavy dew early, perhaps fog; clear in evening
31																				
SUM						2.18														
MEAN	742.1	18.1	70	25.0	11.8		5.4	2.5		4.1		8.0		3.1						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 115

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				234	283	333	307	358	394	430	422	365	267	219	198	183	181	181	179	182	157	154	162	144	131	142	—		0
2				—	—	—	—	—	—	—	—	—	234	206	166	154	181	192	192	173	178	192	158	45	42	82	181		0
3	✓			212	272	272	272	295	311	326	337	335	312	259	204	173	157	153	152	107	55	90	58	68	29	33	27	188	0
4	✓			35	42	46	62	109	141	181	149	91	126	133	141	141	141	154	169	98	52	40	42	100	159	154	119	109	1
5	✓			102	129	137	120	137	133	100	134	161	170	182	194	156	141	157	158	83	89	97	109	105	118	142	170	134	2
6	✓			198	207	216	196	185	167	157	126	116	157	167	163	152	(124)	97	89	68	86	105	104	116	102	150	144	141	1
7	✓	✓		140	141	135	122	126	141	156	146	162	163	156	154	150	127	142	144	145	154	165	166	178	221	240	248	159	1
8				256	262	272	318	312	311	319	308	227	185	190	178	171	162	154	154	157	129	82	104	58	66	49	104		0
9				—	—	—	—	—	—	—	—	190	194	195	162	157	169	166	144	144	152	142	159	166	224	238	249		0
10	✓	✓		252	271	261	245	273	338	381	283	212	199	181	158	170	171	166	156	144	66	53	94	127	111	100	142	190	0
11				149	138	—	—	—	—	—	—	—	242	266	285	273	257	248	249	256	221	53	60	73	87	122	127		0
12	✓	✓		119	109	113	102	118	124	130	220	340	334	317	287	243	216	196	161	167	174	101	58	102	113	115	113	170	0
13	✓	✓		113	101	100	111	141	156	215	271	307	311	348	357	338	(308	273)	265	256	104	265	208	154	156	152	154	215	1
14	✓			191	216	251	258	239	217	207	222	243	280	291	111	171	158	153	297	258	220	217	225	234	234	256	216	224	2
15	✓			208	206	202	211	194	196	212	215	219	212	202	196	199	183	173	163	167	167	179	179	211	230	183	242	198	1
16	✓			235	215	217	229	199	135	86	174	222	239	208	189	177	170	166	179	182	177	178	186	200	207	203	190	190	2
17	✓			154	154	154	148	152	163	169	178	183	169	144	138	144	150	162	165	161	165	166	178	189	196	206	220	167	1
18	✓	✓		240	233	236	242	225	244	227	224	221	225	207	194	195	183	173	162	156	156	169	195	222	222	253	249	211	1
19	✓			224	203	185	166	159	153	148	157	167	161	149	154	154	158	154	152	149	153	162	161	179	156	173	165	164	1
20	✓			156	162	153	167	166	181	161	186	182	182	169	167	169	(154	156)	152	166	169	166	189	195	206	219	210	174	1
21	✓	✓		243	270	292	303	243	257	258	243	196	182	173	189	177	169	178	170	182	175	178	183	204	211	233	192	213	0
22	✓			182	179	166	166	154	154	146	152	152	135	144	146	142	149	149	152	129	124	130	141	145	154	156	162	150	1
23	✓	✓	✓	162	150	153	154	169	154	162	163	156	149	150	162	154	156	156	153	153	148	153	156	162	178	179	196	160	0
24	✓			200	207	207	225	245	235	297	283	243	203	202	202	195	195	186	192	207	215	208	245	276	270	285	152	221	0
25	✓	✓	✓	190	238	288	311	326	331	385	413	335	329	309	285	268	234	220	207	190	171	179	191	203	211	207	170	258	0
26	✓	✓		165	115	146	142	156	198	322	273	149	211	259	210	195	189	185	185	177	169	179	192	192	198	211	207	193	0
27				251	262	—	—	—	—	—	—	—	133	141	140	141	141	141	141	142	154	159	166	122	127	157	173		1
28	✓			177	185	196	199	220	234	211	213	196	169	153	165	165	153	127	131	141	153	166	169	178	179	182	178	177	1
29	✓	✓	✓	178	182	186	192	195	204	211	219	217	202	181	152	135	123	158	166	161	124	113	126	157	204	186	185	173	0
30				194	192	175	162	159	165	167	185	169	185	182	170	171	167	—	—	—	—	173	—	—	—	—	175		0
31																													
MEANS * 23 DAYS				177	182	187	189	192	199	211	217	209	210	204	188	181	170	167	170	159	142	150	155	169	177	181	176	182	
MEANS † 10 DAYS				180	181	191	192	197	215	245	246	230	230	228	215	202	188	185	177	173	144	156	157	170	182	188	186	194	
MEANS ‡ 4 DAYS				196	210	222	226	241	257	285	270	230	220	205	190	178	170	175	168	162	149	147	158	172	204	202	200	202	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 116

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				191	243	271	265	336	376	390	396	370	266	194	185	178	181	184	175	167	139	126	128	110	83	93	134		0
2				145	129	118	121	142	105	120	185	258	228	201	157	146	168	176	181	138	154	166	126	40	24	52	142		0
3	✓			170	214	238	258	283	308	310	315	320	308	269	218	190	176	169	156	109	43	70	39	31	15	15	17	177	0
4	✓			19	35	40	51	94	119	149	120	68	93	103	119	114	123	123	141	75	46	29	28	79	145	143	119	91	1
5	✓			92	105	118	94	133	(149)	164	132	154	178	180	181	155	155	149	144	68	67	72	80	70	75	77	119	121	2
6	✓			134	(141	149)	144	97	155	(155)	155	146	138	151	142	119	126	106	76	47	67	85	83	80	75	81	84	114	1
7	✓	✓		94	96	84	81	102	109	(116	126)	133	142	134	136	136	109	123	118	112	127	107	90	106	154	188	206	122	1
8				206	239	243	263	285	—	—	—	190	160	166	158	156	152	142	134	131	106	67	70	31	38	35	67		0
9				42	58	80	96	92	109	123	123	142	157	156	148	137	156	157	132	119	132	114	106	115	169	211	237		0
10	✓	✓	✓	210	232	231	198	252	296	321	241	178	178	169	142	156	166	148	137	127	56	43	79	107	83	68	109	164	0
11				101	92	94	102	105	126	136	145	182	224	251	264	267	243	243	238	226	198	50	48	55	64	96	94		0
12	✓	✓		89	80	80	80	85	98	106	190	317	328	317	285	239	226	188	139	129	146	81	47	83	93	90	93	150	0
13	✓	✓		64	77	76	90	124	146	190	260	305	327	348	369	351	323	(309	274)	252	225	241	186	154	132	124	144	213	1
14	✓			174	195	241	235	215	180	179	214	238	264	204	280	263	207	174	310	256	213	204	206	213	212	219	191	220	2
15	✓			168	168	170	181	163	166	186	206	184	186	190	180	179	167	144	145	112	119	143	152	186	150	173	187	167	1
16	✓			176	182	192	208	216	244	220	244	169	151	167	168	158	155	155	166	163	156	146	152	156	173	168	188	178	2
17	✓			158	127	107	119	119	134	132	152	167	158	148	152	154	156	168	166	150	144	144	142	144	150	156	176	147	1
18	✓	✓		187	190	181	192	186	199	173	188	185	206	204	170	186	182	178	156	149	145	144	157	180	181	206	213	181	1
19	✓			187	168	168	134	129	124	119	120	132	138	143	145	148	155	148	154	142	144	137	133	134	155	139	138	143	1
20	✓			144	134	137	119	134	132	133	138	151	166	163	158	166	155	(142)	144	155	138	132	145	163	178	182	178	149	1
21	✓	✓		206	233	253	258	200	213	214	221	191	181	184	180	181	173	175	166	161	157	155	144	157	178	191	158	189	0
22	✓			157	162	149	145	134	143	127	119	131	131	132	132	158	144	145	136	115	107	112	112	114	112	114	114	131	1
23	✓	✓	✓	109	120	124	120	131	126	124	133	136	136	137	145	150	148	144	138	132	132	132	143	123	124	132	156	133	0
24	✓			144	169	172	169	204	220	252	239	174	172	187	192	192	192	180	184	181	178	182	204	239	238	200	144	192	0
25	✓	✓	✓	169	228	269	306	310	321	363	360	309	300	296	287	280	258	230	216	191	169	157	157	172	181	173	167	245	0
26	✓	✓		132	107	132	139	144	174	295	251	138	204	243	204	184	168	174	168	155	144	144	155	155	160	168	169	171	0
27				212	218	232	219	190	145	142	131	92	131	134	149	143	144	131	129	70	132	126	123	120	110	106	121		1
28	✓			127	134	144	149	182	200	180	181	164	154	155	155	162	161	110	119	126	119	131	131	132	129	124	124	146	1
29	✓	✓	✓	115	132	144	142	141	158	166	169	194	195	175	149	132	118	157	160	139	106	93	86	121	163	157	146	144	0
30				158	166	132	129	132	126	—	—	—	167	145	143	160	156	179	173	169	167	142	141	143	149	167	133		0
31																													
MEANS * 23 DAYS				141	149	156	157	164	179	190	195	186	193	191	186	181	171	163	161	141	128	125	124	135	142	143	145	160	
MEANS † 10 DAYS				140	150	157	161	168	184	207	214	209	220	221	207	200	187	183	167	155	141	130	124	136	145	150	156	171	
MEANS ‡ 4 DAYS				151	178	192	192	208	225	244	226	204	202	194	182	175	170	172	162	145	135	124	123	133	159	168	176	177	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 117

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	83	74	65	65	74	81	83	90	114	72	77	69	74	74	85	77	65	56	44	62	81	85	85	81	76	0
2	✓	✓	✓	85	97	90	90	74	71	56	55	53	55	60	58	55	53	56	60	60	44	44	48	60	65	69	65	63	0
3	✓	✓	✓	60	56	60	56	53	48	44	44	44	53	60	60	69	65	77	69	72	56	60	72	69	69	74	77	61	0
4	✓	✓	✓	77	79	85	91	88	85	83	81	65	50	46	46	58	77	77	72	71	69	83	88	91	88	88	95	76	0
5	✓	✓	✓	100	95	95	91	91	88	97	93	90	81	85	91	90	93	95	91	106	106	104	109	126	128	91	106	98	0
6	✓	✓		95	109	65	56	81	109	104	106	102	106	106	123	106	102	109	126	126	155	163	159	175	151	147	159	118	0
7	✓	✓		159	163	163	130	123	102	109	109	N 60	−31	N 72	95	102	107	120	132	139	139	144	135	120	137	112	114	115	1
8	✓	✓	✓	104	100	93	93	71	65	65	71	71	69	77	74	77	81	79	83	83	71	77	100	130	109	93	81	84	0
9	✓	✓	✓	79	77	65	65	53	67	55	62	72	74	74	81	77	79	81	79	88	74	56	58	60	60	69	71	70	0
10	✓	✓	✓	58	50	58	71	62	56	65	65	69	79	90	90	88	95	97	85	88	72	48	56	60	44	53	53	69	0
11	✓	✓	✓	69	69	72	65	53	48	44	56	67	102	97	83	100	112	116	95	88	81	60	56	69	90	77	69	77	0
12				71	62	67	85	81	81	69	79	81	85	93	90	90	Z	93	97	97	67	60	60	44	48	62	N 13		1
13	✓	✓	✓	N 60	69	69	60	65	60	60	48	65	77	90	90	81	77	72	77	102	102	106	114	93	81	72	69	77	1
14	✓	✓	✓	77	72	77	77	69	48	39	35	48	53	48	69	69	81	77	90	81	85	85	97	102	102	102	93	74	0
15				85	90	97	85	77	77	69	72	65	77	60	60	81	81	60	Z	Z	44	81	81	81	N 56	56	50		1
16				58	83	74	91	95	85	83	81	90	97	90	83	77	67	67	65	62	65	Z	Z	65	97	93	72		1
17				69	77	90	102	90	90	65	Z	N 58	170	107	100	83	67	77	Z	Z	106	Z	Z	N 79	79	88	90		1
18	✓	✓		100	77	74	69	72	139	116	106	107	102	104	N102	100	97	88	90	83	77	N 62	42	24	107	67	88	87	1
19				N 46	Z	N 71	109	116	104	102	125	125	100	104	Z	104	90	95	95	97	100	91	97	81	85	100	83		1
20				88	114	Z	88	95	112	116	128	120	116	104	93	N 81	85	97	102	106	107	100	88	71	79	65	81		1
21	✓	✓	✓	53	46	53	50	44	50	50	44	39	48	60	65	65	56	69	69	72	56	60	39	44	60	53	48	54	0
22	✓	✓	✓	44	39	35	35	35	31	39	39	39	44	44	53	56	65	56	56	56	44	44	39	53	56	39	44	45	0
23				31	35	39	39	56	48	39	48	Z	Z	Z	118	97	77	77	81	81	81	81	81	69	69	74	65		1
24	✓	✓	✓	71	74	74	72	71	62	67	56	58	56	79	81	62	83	85	85	88	74	67	67	46	58	55	48	68	0
25				46	56	56	50	44	42	46	50	48	48	39	50	58	65	74	81	83	81	56	56	Z	Z	106	104		1
26	✓			116	107	79	67	65	77	62	58	60	65	77	77	67	74	69	72	60	58	55	58	60	50	74	83	70	0
27	✓	✓	✓	81	81	62	62	60	56	48	48	39	35	39	44	65	69	69	65	65	60	60	72	60	65	77	85	61	0
28				83	83	90	100	N 90	142	188	147	135	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	112		2
29	✓	✓	✓	112	106	106	93	106	90	56	56	65	69	81	85	90	90	81	77	72	72	69	53	56	60	65	60	78	0
30				60	53	—	—	—	—	—	—	48	53	56	69	81	81	93	90	85	67	60	55	65	69	72	65		0
31				72	85	90	85	77	65	N 81	Z	N 60	205	126	Z	106	93	97	97	93	Z	Z	Z	Z	132	106	95		1
MEANS * 20 DAYS				84	82	77	73	70	72	67	66	66	63	73	77	78	82	83	82	83	78	75	76	79	83	78	80	76	
MEANS † 19 DAYS				82	81	77	73	71	71	67	67	67	63	73	77	78	82	84	83	84	79	76	77	80	85	78	79	76	
MEANS ‡ 16 DAYS				76	74	72	71	67	63	59	59	62	64	69	71	74	78	80	77	79	70	67	71	75	76	73	72	71	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VAL

TABLE 118

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	749.1	13.0	81	22.1	5.9		9.3	S	2	..	0	ESE	4	SE	5		0		0	Heavy fog till 9h
2	747.0	17.7	64	25.2	7.7		8.6	..	0	ENE	2	ENE	2	SE	5	CiSt	4- 6	CiSt	4- 6	Dew in early am
3	743.6	17.5	64	28.2	7.2		9.5	..	0	NNE	1	NW	1	S	3		0		0	
4	742.7	17.5	58	28.5	8.9		9.4	S	4	SE	2	NNW	2	S	4	Cu; FrCu	9-10	Cu; FrCu	9-10	
5	742.2	16.3	69	22.9	8.2		7.0	SSW	4	S	4	S	8	S	4		..		..	
6	745.7	14.3	73	17.1	11.3		1.6	SSE	7	ESE	19	ESE	18	SE	8	St; Nb	9-10	Cu	4- 6	Light dew in early am; clear at night
7	748.3	11.7	51	17.9	6.1		9.6	SSE	10	E	22	ESE	14	E	4		0		0	Dew early; air dusty in am and pm
8	749.5	12.7	53	20.2	4.7		9.6	E	8	ENE	12	E	13	E	6	CiSt	1- 2	CiSt	1- 2	
9	748.9	14.4	40	20.1	4.6		9.4	E	4	NE	15	NE	10	ENE	4	Ci	1		1- 3	
10	746.9	15.3	43	23.1	6.3		9.0	NE	2	NNE	9	NE	11	NE	2	Ci; CiSt; CiCu	10	Ci; CiSt; CiCu	10	Clearing in evening
11	745.2	16.5	38	24.1	5.6		7.6	NE	5	NNE	4	NE	10	NE	2	Ci; CiSt; CiCu	4- 6	Ci; CiSt; CiCu	4- 6	Clearing in evening
12	742.9	15.9	41	24.4	8.5		2.2	NE	3	NNE	7	NNE	7	..	0	CiSt; ACu; ASt	10	ACu; ASt	10	Threatening in evening; rain at 24h
13	743.0	17.2	48	22.0	17.2	T	2.0	N	1	..	0	N	6	NE	3	CiSt; ASt; ACu	10	ACu; CuNb	10	CiSt 10 in evening
14	741.6	16.2	49	20.8	7.7		1.0	ESE	1	NE	4	NNE	14	NE	8	ACuNb	10	CuNb	10	Clearing in evening; lightning in W in evening
15	739.0	18.2	43	19.4	12.8		0.0	NNE	6	NNE	7	NNE	13	NE	7	CuNb	10	CuNb; Nb	10	Rain at intervals in pm; StCu 4-6 at night
16	739.4	17.0	56	23.7	10.3	0.02	6.9	NE	11	NE	10	NNE	9	NE	4	ACu; StCu; CuNb	7-10	ACu; StCu; CuNb	7-10	Light showers in evening
17	736.0	14.6	96	19.2	13.5	0.14	1.2	N	4	N	5	N	14	NW	8	Nb; FrCu; StCu	10	Nb; FrCu; StCu	10	Raining all day
18	734.3	16.4	88	20.7	14.0	0.15	6.0	NW	12	W	8	W	17	W	2	FrCu; CuNb	10	FrCu; CuNb	10	Rain at intervals all day; dew at 21h; fog, rain later
19	737.5	14.0	72	16.7	11.2	0.41	5.0	SW	3	SW	5	SW	13	..	0	Cu; CuNb	7-10	Cu; CuNb	7-10	Occasional showers during day; clearing in evening
20	743.2	15.0	65	17.9	6.4	0.04	5.3	N	2	WSW	5	WSW	8	SW	1	Cu	4- 6	Cu	4- 6	Rain at 12h; dew and frost in late evening
21	745.6	11.6	88	18.3	4.0	T	3.0	NW	1	NNW	2	WNW	3	..	0	Cu; StCu; ACu	4- 6	Cu; StCu; CuNb	4- 6	Dew and fog late at night
22	742.2	13.0	85	21.6	5.8		7.2	NNW	1	N	1	NNW	5	W	1	Cu; StCu; FrCu	4- 6	Cu; StCu; FrCu	4- 6	
23	735.1	14.6	98	19.1	7.2	0.07	1.6	NNW	3	NNW	7	WSW	15	W	2	Cu; CuNb	10- 7	Cu; FrCu	7- 8	Showers at 9h to 10h
24	741.1	15.2	74	19.1	8.7	0.09	2.6	NW	2	NNW	1	WNW	5	..	0	ASt; ACu	7-10	ACu; ASt; CuNb	9-10	Overcast in evening
25	740.1	14.7	68	20.8	5.9	T	2.1	NNE	1	NNW	3	WNW	13	NW	7	ACu; ASt; CuNb	9-10	ACu; CuNb	10	Dew early; rain after 19h5
26	744.5	12.2	93	18.6	6.9	0.23	2.0	..	0	..	0	WSW	7	..	0	ACu; ASt; ACuNb	7-10	ACu; ASt; ACuNb	7-10	Heavy dew early; few drops rain at intervals
27	745.7	12.5	81	19.3	11.0	T	0.6	..	0	NNW	1	NW	7	WNW	8	Cu; StCu; CuNb	9-10	Cu; StCu; CuNb	9-10	Light rain about 23h
28	734.3	16.8	72	18.2	13.0	0.01	3.0	NNW	4	NNW	18	WSW	23	SW	8	Cu; CuNb	9-10	Cu; CuNb	9-10	Heavy showers through the day
29	742.6	12.1	95	16.6	4.8	0.73	4.6	SSW	2	..	0	SW	4	SSW	2	Cu; StCu; CuNb	4- 6	Cu; StCu; CuNb	4- 6	Dew early; clear in evening
30	742.1	9.6	87	18.1	2.6		4.9	..	0	..	0	N	11	NNW	4	Ci; CiSt	4- 6	Ci; CiSt	4- 6	Heavy dew and fog early; mist at 9h; clear in evening
31	734.5	14.5	92	18.9	8.5	0.15	3.4	NNW	10	NW	5	WNW	24	W	16	CuNb; Nb	10	CuNb; Nb	7-10	Rain in early am and evening
SUM						2.04														
MEAN	742.4	14.8	68	20.7	8.1		5.0		3.6		5.8		10.0		4.1					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 119

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED (120° EAST MERIDIAN MEAN TIME)

MAY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	165	151	162	180	174	⌈151	152	190	136⌋	211	187	162	162	160	138	150	141	163	195	162	162	152	174	175	165	0
2	✓	✓	✓	176	166	185	209	227	253	273	308	300	275	264	255	260	262	261	252	248	257	256	262	269	275	285	299	253	0
3	✓	✓	✓	321	318	310	323	347	357	364	385	381	346	286	258	241	227	226	225	225	232	211	209	230	236	215	207	278	0
4	✓	✓	✓	221	225	215	222	225	225	225	240	312	340	342	336	313	(262	227	221)	212	206	179	182	187	192	212	200	238	0
5	✓	✓	✓	190	⌈166	168	167	166	172	166	172	181⌋	191	176	175	172	174	174	172	152	141	138	137	134	143	167	151	164	0
6	✓	✓		130	136	134	126	134	147	160	165	162	138	126	109	109	102	118	121	110	110	102	109	102	130	147	140	128	0
7	✓	✓		146	150	162	191	214	(200	196	209	205)	175	194	172	166	162	142	129	137	150	132	125	175	165	190	187	170	1
8	✓	✓	✓	201	216	236	255	283	295	296	306	312	286	255	242	225	225	224	211	202	220	⌈200	163	163	191⌋	224	232	236	0
9	✓	✓	✓	245	262	296	310	352	328	330	308	258	237	214	205	200	202	211	212	210	200	212	238	250	253	274	283	254	0
10	✓	✓	✓	322	357	347	317	323	335	311	294	273	235	205	177	161	163	174	191	192	199	215	257	238	236	291	278	254	0
11	✓	✓	✓	274	296	286	301	325	345	359	337	297	215	176	175	187	(152	138)	189	209	209	227	225	266	236	250	279	248	0
12	✓			297	325	328	289	286	269	262	260	243	212	192	189	182	≷147≷	176	179	195	192	205	210	227	272	252	≷180≷	232	1
13	✓	✓	✓	225	246	250	285	299	300	316	352	317	273	214	202	212	207	185	200	163	160	171	175	220	250	264	274	240	1
14	✓	✓	✓	268	274	285	286	308	323	353	383	342	274	240	217	201	189	185	189	195	204	214	222	227	229	238	261	254	0
15	✓			274	274	261	263	261	262	251	256	253	230	207	191	168	162	187	189	191	197	201	201	220	215	221	197	222	1
16	✓			190	204	211	206	215	219	235	238	211	209	209	212	214	214	212	214	211	199	(189	200)	216	209	211	214	211	1
17	✓			215	230	221	201	200	190	194	(189)	182	174	176	185	185	196	196	≷143	174≷	170	165	≷150≷	161	168	163	⌈162⌋	183	1
18	✓	✓		⌈161	165	175	176	174	142	132	136	148⌋	150	151	147	150	(153	156)	160	170	175	175	189	187	(184)	212	219	166	1
19	✓			(220	196)	180	170	162	170	176	175	174	174	174	160	168	167	170	171	176	172	194	179	217	224	233	236	185	1
20	✓			231	197	≷197≷	190	214	212	210	181	177	165	170	163	162	165	163	167	172	172	168	186	200	205	224	261	190	1
21	✓	✓	✓	285	339	328	347	415	331	383	440	427	390	323	264	217	204	200	196	190	189	202	229	250	250	253	272	288	0
22	✓	✓	✓	314	358	427	429	477	467	406	407	436	392	321	267	226	204	200	197	190	197	205	226	260	253	312	316	312	0
23	✓			348	348	335	323	308	263	248	231	229	(168)	145	143	155	161	162	162	161	152	163	166	179	187	199	215	215	1
24	✓	✓	✓	224	227	226	248	257	282	289	313	324	308	219	196	185	181	187	190	200	204	212	225	252	257	274	323	242	0
25				336	317	299	317	336	352	347	348	364	317	273	237	182	(165	167	160)	162	174	185	186	≷110≷	—	—	—		1
26				—	—	—	—	—	—	—	—	—	—	—	—	—	—	179	175	172	190	192	197	224	257	260	205		0
27	✓	✓	✓	204	222	251	258	263	313	346	360	393	404	372	271	212	192	191	187	184	186	199	177	166	175	184	174	245	0
28	✓			199	195	201	200	199	174	162	160	155	≷116	108	73	137	133	138	142	161	142	140	147	134	151	133≷	166	153	2
29	✓	✓	✓	170	179	187	192	195	229	274	286	280	250	202	185	187	177	166	175	186	186	190	216	230	236	237	246	211	0
30	✓			250	273	⌈214	170	199	191	231	291⌋	401	393	349	266	221	191	190	200	202	215	227	237	235	238	237	253	245	0
31	✓			235	236	227	232	221	212	≷181	157≷	153	147	146	134	146	141	140	136	138	≷136	152	140	150≷	150	145	152	167	1
MEANS * 29 DAYS				231	239	242	244	256	254	258	267	264	244	219	198	190	182	181	182	183	184	188	191	204	209	221	226	219	
MEANS † 19 DAYS				223	234	244	254	271	273	281	294	289	268	235	211	199	189	184	188	185	189	191	196	209	213	232	238	229	
MEANS ‡ 16 DAYS				238	250	260	271	290	294	303	318	311	289	250	224	210	199	193	197	194	197	202	207	219	223	241	248	243	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 120

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	123	114	147	153	147	⌈130	127	139	110⌋	196	164	153	154	153	129	144	140	150	176	144	141	140	166	163	146	0
2	✓	✓	✓	154	[153	170	194	211	235	253	288	280]	256	246	244	246	247	245	243	230	232	224	207	222	245	245	256	230	0
3	✓	✓	✓	275	267	278	281	311	318	348	341	352	337	280	252	238	218	211	201	193	189	177	177	189	188	178	176	249	0
4	✓	✓	✓	188	189	188	186	194	199	210	212	289	321	315	314	291	242	201	197	199	187	153	147	153	157	159	152	210	0
5	✓	✓	✓	147	133	136	139	139	146	144	152	163	171	165	164	160	160	156	154	130	115	110	104	98	105	108	113	138	0
6	✓	✓		[100	108	110	107	116	133]	144	159	158	138	114	100	98	100	113	114	93	90	81	88	76	93	98	115	110	0
7	✓	✓		119	121	119	141	159	162	165	184	189	189	195	169	164	163	141	125	127	136	110	98	133	120	147	148	147	1
8	✓	✓	✓	181	199	223	221	250	286	292	292	303	291	263	245	227	236	224	207	197	199	⌈175	136	134	169⌋	199	201	223	0
9	✓	✓	✓	214	234	259	260	328	301	307	279	247	235	212	199	197	201	201	213	199	188	194	221	222	221	227	235	233	0
10	✓	✓	✓	287	326	315	280	294	314	284	264	264	223	201	176	165	154	162	176	171	172	202	223	199	211	267	263	233	0
11	✓	✓	✓	245	259	254	268	297	317	319	309	280	211	164	174	174	152	(130	177)	195	183	209	206	236	198	219	250	226	0
12	✓			259	311	293	245	248	236	226	222	218	198	177	177	171	166	156	152	153	154	174	177	215	256	247	201	210	1
13	✓	✓	✓	205	216	216	255	268	267	289	293	258	245	201	199	202	187	165	176	132	123	127	128	175	189	177	204	204	1
14	✓	✓	✓	228	243	234	245	269	287	312	340	299	260	230	203	186	169	165	164	168	175	178	186	184	198	205	219	223	0
15	✓			218	210	214	215	222	222	221	223	226	205	188	178	151	142	163	175	188	177	175	182	188	190	193	175	193	1
16	✓			164	166	177	168	165	172	184	190	184	184	188	191	204	203	201	194	188	176	186	190	188	178	176	177	183	1
17	✓			164	161	174	165	164	156	168	≷191	171≷	129	150	154	162	172	175	≷199	156	150	90	130≷	140	140	139	139	157	1
18	✓	✓		138	141	150	151	148	121	112	115	127	124	128	135	132	133	129	132	140	140	144	159	147	(146)	174	177	139	1
19	✓			195	(181)	140	104	102	100	112	107	118	128	138	134	136	139	147	140	140	128	124	128	140	150	145	175	135	1
20	✓			164	144	≷130≷	139	135	127	136	114	128	174	140	141	133	140	140	136	121	125	120	118	139	154	196	211	142	1
21	✓	✓	✓	242	305	316	315	383	314	381	451	440	396	329	266	207	193	181	164	154	158	154	188	212	211	221	250	268	0
22	✓	✓	✓	293	324	412	453	488	508	439	401	436	394	323	268	224	202	195	184	176	177	195	211	234	234	284	295	306	0
23	✓			348	338	325	315	293	259	236	223	(212	174	105)	121	136	140	142	138	130	118	118	116	140	145	152	176	192	1
24	✓	✓	✓	184	186	183	203	215	235	236	259	279	287	209	177	168	163	166	153	151	152	159	158	198	199	229	277	201	0
25				302	291	275	311	332	350	351	347	357	316	267	237	183	175	(166	152)	141	141	152	157≷	151	141≷	115	90		1
26				90	102	⌈138	175	180⌋	164	188	199	—	—	—	—	—	—	136	142	139	138	151	158	168	199	187	164		0
27	✓	✓	✓	153	159	172	190	201	237	296	332	378	384	361	259	201	182	176	168	159	156	165	162	158	152	152	151	213	0
28	✓			164	164	163	163	171	151	138	133	136	≷113	159	209	86	120	123	103	113	95	80	89	136	90	128≷	116	131	2
29	✓	✓	✓	≷108	100	103	141	136	141	207	235	221≷	196	175	159	154	159	142	146	141	138	139	176	188	194	190	222	163	0
30	✓			221	240	⌈175	166	186	164	212	272⌋	370	382	336	256	207	177	177	186	178	177	188	201	206	212	213	224	222	0
31	✓			216	209	209	210	199	199	≷171	150≷	141	105	121	128	114	≷91	80	73	70	89	86	76	132≷	123	119	124	135	1
MEANS * 29 DAYS				197	204	206	209	222	222	230	237	241	229	206	191	175	169	163	163	156	153	152	156	170	173	185	193	192	
MEANS † 19 DAYS				189	199	210	220	240	245	256	266	267	255	225	203	189	180	170	170	163	161	162	164	174	177	192	204	203	
MEANS ‡ 16 DAYS				202	213	226	236	258	265	278	287	287	275	240	216	200	189	178	179	171	168	171	173	184	188	202	214	217	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 121

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1926

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	66	84	74	95	91	79	74	84	86	86	81	N 60	70	72	62	69	77	70	67	72	81	89	77	69	77	1
2	✓	✓		70	67	56	69	65	62	81	81	109	81	89	105	N 72	81	70	81	N 60	74	95	81	84	83	83	67	78	1
3				65	60	02	Z	38	Z	129	126	152	101	67	84	84	84	83	74	N 79	101	93	93	83	79	65	65		1
4	✓	✓	✓	79	70	65	60	62	60	56	58	60	62	72	93	81	72	81	103	101	67	69	81	81	81	101	70	74	0
5	✓	✓	✓	60	62	60	67	62	60	48	46	53	60	62	65	69	81	84	84	81	55	53	48	50	50	55	62	62	0
6				69	60	55	55	53	46	46	44	44	48	48	60	77	72	81	Z	84	96	96	98	81	93	86	89		1
7	✓	✓	✓	84	74	74	77	67	69	70	69	77	67	60	67	69	81	81	72	67	46	44	46	50	60	60	60	66	0
8				—	—	—	—	—	—	—	—	48	48	48	60	84	77	77	91	74	79	81	77	77	65	72	60		0
9	✓	✓	✓	56	53	60 N	84	56	60	69	65	72	56	69	65	72	81	69	69	69	56	77	60	60	77	89	93	68	1
10	✓	✓	✓	93	93	96	101	96	93	69	81	69	56	56	56	65	81	72	72	69	56	60	72	93	105	113	89	80	0
11	✓	✓	✓	72	72	60	56	60	56	60	56	60	60	65	69	77	77	77	77	72	48	40	56	56	56	44	40	61	0
12	✓	✓	✓	44	44	44	48	48	56	44	53	56	65	65	69	65	65	60	60	60	44	48	60	77	60	48	44	55	0
13				40	44	53	60	65	53	44	53	65	65	Z	Z	Z	Z	162	109	96	93	84	77	89	101	96	96		1
14	✓	✓	✓	93	93	101	84	72	93	81	56	60	60	48	72	81	81	77	60	56	53	58	60	62	60	60	65	70	0
15	✓	✓	✓	69	89	81	60	70	53	46	46	53	50	50	53	67	74	74	77	83	72	79	101	95	67	46	50	67	0
16				53	50	44	44	42	44	38	42	48	60	62	72	69	N 67	N 58	79	62	Z	N 89	131	Z	Z	Z	Z		2
17				−4	N 42	N 62	Z	38	25	38	36	91	107	113	107	96	86	95	95	89	79	67	72	81	83	86	77		1
18	✓	✓	✓	58	58	60	58	56	55	48	50	56	58	67	77	79	77	81	84	79	81	81	79	70	62	70	62	67	0
19				70	70	81	95	89	81	83	81	69	N 53	—	107	79	79	Z	N 58	N 58	Z	Z	Z	86	Z	N 70	Z		2
20				Z	119	Z	Z	Z	96	83	107	131	101	101	91	91	79	83	81	83	95	84	81	84	96	101	96		1
21	✓	✓	✓	98	101	91	96	93	79	69	56	69	81	77	84	84	84	81	89	96	69	56	60	89	69	81	65	80	0
22	✓	✓		27	40	60	40	40	44	36	19	69	72	69	77	72	72	72	65	60	48	53	60	56	60	60	60	55	0
23	✓	✓	✓	56	48	56	60	56	53	44	44	53	53	53	56	60	60	65	77	81	65	48	48	48	44	48	65	56	0
24				60	69	89	81	69	60	N 36	Z	Z	Z	89	105	72	60	56	101	96	77	77	84	93	65	81	77		1
25				84	65	56	93	69	81	89	46	113	79	55	58	Z	69	74	86	86	81	79	70	60	69	77	65		1
26				74	62	60	62	69	67	67	N 56	60	95	Z	Z	Z	Z	Z	Z	103	98	86	91	96	79	98	101		1
27	✓	✓	✓	98	117	121	83	67	86	77	79	89	103	107	86	77	95	N 83	84	98	79	67	81	62	56	65	67	84	1
28	✓	✓	✓	69	77	65	65	65	48	53	60	60	65	69	72	69	48	69	72	77	69	65	77	72	69	89	113	69	0
29	✓	✓	✓	105	84	72	69	72	72	69	69	65	60	65	69	69	72	81	81	81	65	60	60	60	60	60	65	70	0
30	✓	✓	✓	60	60	60	60	65	48	48	48	60	56	56	56	65	77	81	89	84	69	65	77	56	69	65	65	64	0
31																													
MEANS ✱ 19 DAYS				72	73	71	70	66	65	61	59	67	66	67	71	72	75	75	77	76	62	62	67	69	67	69	67	69	
MEANS † 19 DAYS				72	73	71	70	66	65	61	59	67	66	67	71	72	75	75	77	76	62	62	67	69	67	69	67	69	
MEANS ‡ 17 DAYS				75	75	73	72	68	66	61	60	65	65	66	69	72	75	75	78	78	63	61	67	68	67	69	67	69	

DESIGNATIONS AND REMARKS:

✱ = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 122

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	738.3	14.8	83	18.7	11.5	0.27	3.9	W	8	W	10	W	13	WNW	5	Cu; Nb	7-10	Cu; Nb	7-10	Occasional showers
2	740.0	13.8	98	17.8	10.0	0.04	1.1	NW	1	NNW	6	WNW	16	NNW	4	Cu; Nb	7-10	Cu; Nb	7-10	Occasional showers
3	740.4	12.8	89	15.7	12.3	0.32	1.6	NNW	5	WSW	5	SW	15	SW	1	Cu; Nb	7-10	Cu; Nb	7-10	Occasional showers
4	748.6	10.3	85	15.6	3.6	0.01	4.6	..	0	..	0	SE	1	..	0	Cu; Nb	7- 8	Cu; Nb	7- 8	Clear at night
5	750.0	10.0	72	17.8	3.4		8.8	..	0	NNE	2	NNE	7	NNE	1	CiSt	1- 3	CiSt	1- 3	
6	747.8	9.8	75	20.7	1.3		5.1	NNW	1	NNW	2	WSW	11	S	3	Cu	4- 6	Cu; CuNb	7-10	Light rains in pm
7	750.0	10.4	88	16.7	3.0	0.09	8.7	S	4	..	0	SE	2	SSW	3	CiSt	1- 3	CiSt	1- 3	Heavy dew early
8	748.8	9.2	82	18.3	1.1		4.3	WNW	1	NNW	1	WSW	3	..	0	Cu	4- 6	Cu	7- 8	Mist early; clear in evening
9	750.8	10.5	92	19.3	3.6		8.8	..	0	..	0	E	1	SE	4	CiSt	1- 3	CiSt	1- 3	Fog from $6^h.5$ to 9^h; dew early
10	751.0	10.5	85	20.6	3.8		8.2	SSE	2	SSE	2	E	2	SE	4	CiSt; CiCu	4- 6	CiCu; St; StCu	4- 6	Dew early
11	749.9	11.6	73	21.7	4.6		7.2	ESE	2	NNE	1	NE	9	E	1	CiSt	10	CiSt	10	Dew early
12	746.6	14.0	49	22.9	5.4		7.9	NNE	2	N	2	NNE	12	NNE	5	Ci; CiSt	1- 3	CiSt; Ci	1- 3	
13	738.4	15.7	34	18.2	5.3		3.0	N	4	N	10	WNW	14	NW	1	CiSt; ACu; Nb	7-10	CuNb; Nb	10	Rain at intervals during day; cloudy at night
14	746.0	12.3	94	19.5	6.0	0.26	3.1	WNW	1	N	2	NNW	2	SSW	1	CiSt; ACu; CuNb	7- 8	CiSt; ACu; Cu	7- 8	Heavy fog till 8^h; rain at 10^h; clearing at night
15	746.4	12.0	83	21.4	4.2	T	8.7	NNW	1	..	0	NW	4	WSW	1	St	1- 3	St	1- 3	Heavy fog till 8^h
16	741.3	13.2	83	21.4	5.2		5.2	NW	1	NNW	2	WNW	21	WNW	9	Cu; CuNb	1- 6	Cu; CuNb; Nb	7-10	Fog early; rain about 14^h and from 17^h
17	740.7	14.3	97	18.9	12.5	0.41	4.2	NNW	1	..	0	WSW	7	WSW	2	CiSt; ACu; Cu	7- 8	FrCu; Cu	4- 6	
18	741.1	11.7	86	19.2	6.7		1.4	NNW	1	NNW	3	NW	11	N	1	Cu; CuNb	7-10	Cu; CuNb	7-10	Few drops rain at 13^h and 17^h
19	735.7	14.6	84	19.7	9.1	T	2.0	NNW	3	NNW	10	WSW	18	W	2	ACu; CuNb	7-10	CuNb; Nb	10	Rain at 10^h and all pm
20	743.4	9.5	79	13.4	6.9	0.65	4.9	SSW	5	SSW	4	S	8	SSW	2	StCu; Cu	4- 6	StCu; Cu	4- 6	Dew at 21^h
21	749.5	9.8	79	15.2	1.7		8.0	SSW	3	..	0	SSE	7	S	3	FrACu	1- 3	FrACu	1- 3	Possibly fog early; heavy dew at night
22	747.6	6.3	96	15.5	0.4		5.9	..	0	..	0	E	2	..	1	ACu	1- 3		0	Fog till $7^h.5$; dew at 21^h
23	743.6	9.5	82	18.8	1.0		8.8	..	0	NNE	2	N	10	N	2		0		0	Frost and perhaps fog early
24	741.2	9.3	96	16.7	4.6	0.32	0.3	N	3	NNW	8	NW	9	..	0	CuNb; Nb	10	CuNb; Nb	10	Rain in am and early pm; mist after 20^h
25	741.8	11.1	99	17.8	6.5	0.09	3.1	..	0	..	0	W	4	NW	2	Cu	1- 3	Cu; CuNb	4- 8	Mist or fog till 10^h; rain at 12^h
26	739.7	11.5	98	15.1	4.3	0.11	0.9	NNW	1	WNW	1	W	5	NNW	1	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Showers at frequent intervals
27	745.2	11.3	93	15.3	6.2	0.22	2.3	NW	1	..	0	SW	2	..	0	Cu;Nb	7- 8	Cu; Nb	7- 8	Occasional showers
28	749.4	11.8	92	16.0	10.0	0.02	1.3	..	0	SE	1	ESE	4	ESE	1	Cu; ACu; FrCu	7- 8	Cu; ACu; FrCu	7- 8	Smoke from office detectible
29	747.0	10.9	70	19.3	2.9		8.6	..	0	..	0	N	4	..	0	FrCu; StCu	1- 3	FrCu; StCu	4- 6	
30	743.6	9.6	65	20.6	3.0		8.8	NW	2	NNW	1	WNW	6	..	0		0	FrCu	1- 3	Dew early
31																				
SUM						2.81														
MEAN	744.1	11.4	83	18.3	5.3		5.0	1.8		2.5		7.7		2.0						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 123

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	148	147	144	146	148	146	148	160	162	160	153	148	158	(158	158)	157	162	164	159	171	162	168	187	203	159	1
2	✓	✓		197	202	226	222	234	234	196	221	177	205	196	189	177	178	179	182	176	172	181	185	185	183	183	183	194	1
3	✓			177	184	191	176	177	155	169	153	153	152	159	162	154	157	163	160	164	168	164	183	198	208	223	250	175	1
4	✓	✓	✓	241	251	269	308	326	317	347	370	373	337	255	222	209	191	181	159	159	183	181	167	181	187	197	241	245	0
5	✓	✓	✓	284	292	294	294	307	316	345	357	341	304	256	238	217	191	185	196	207	222	210	222	234	283	282	245	263	0
6	✓			232	265	292	305	316	316	337	357	352	339	320	260	199	183	179	179	198	174	159	152	160	182	187	193	243	1
7	✓	✓	✓	197	219	221	227	245	237	237	245	255	238	244	235	199	173	187	188	197	198	199	211	228	229	262	282	223	0
8	✓			296	345	318	310	355	419	461	514	449	411	368	303	204	(185	181)	183	189	194	197	196	[199	222	216	256]	290	0
9	✓	✓	✓	[299	316	268	237	290	294	258	295	304	304]	255	228	211	188	210	220	215	201	159	197	220	203	184	174	239	1
10	✓	✓	✓	197	203	203	199	211	213	226	255	330	356	357	327	275	257	268	260	252	257	228	205	160	146	158	232	241	0
11	✓	✓	✓	302	310	329	337	348	353	349	367	366	369	333	283	258	245	245	251	260	270	247	266	257	269	303	314	301	0
12	✓	✓	✓	302	331	342	379	390	372	362	357	351	286	268	245	234	223	221	233	234	244	231	204	173	210	232	274	279	0
13	✓			312	319	323	315	315	334	347	339	310	284	210	204	160	174	149	152	155	158	157	157	159	162	185	187	232	1
14	✓	✓	✓	172	185	[191	233	268	233	260	351]	355	331	292	255	221	201	207	204	216	222	228	234	238	247	[284	283]	246	0
15	✓	✓	✓	[217	144	233	299	270	317	378	358	372]	376	348	328	269	(243	216)	197	189	198	177	139	199	245	314	310	264	0
16	✓			328	365	398	438	466	443	424	387	383	307	245	194	176	169	169	172	172	130	169	169	130	148	176	183	264	2
17	✓			171	191	202	181	197	217	232	229	232	209	182	187	183	174	168	174	171	176	191	205	208	219	222	232	198	1
18	✓	✓	✓	281	287	279	294	339	362	379	402	357	319	279	209	183	179	174	172	174	179	184	196	233	258	266	281	261	0
19	✓			275	261	211	192	211	257	252	239	234	207	196	184	159	149	122	147	152	135	118	127	167	159	169	174	187	2
20	✓			98	183	113	154	163	194	183	184	187	184	178	179	185	184	191	178	160	163	162	171	188	188	198	209	174	1
21	✓	✓	✓	198	192	198	197	202	216	251	277	274	219	208	187	183	194	191	174	162	179	184	183	154	185	172	188	199	0
22	✓	✓		[226	178	187	221	216	222	244	295	247	228	243]	220	233	(216	219)	246	255	256	247	252	257	257	243	249	236	0
23	✓	✓	✓	250	269	285	269	[244	277]	304	334	353	315	314	284	252	241	222	205	194	197	201	221	250	281	282	277	263	0
24	✓			270	245	232	241	257	271	292	260	193	209	246	197	208	202	204	204	207	187	196	[142	126	193	173	208]	215	1
25	✓			[182	261	305	250	243	231	253	322	233	255]	268	272	231	222	205	192	184	192	208	220	258	271	267	298	243	1
26	✓			281	294	327	338	304	279	267	268	268	223	187	171	160	167	159	160	171	169	173	185	211	211	196	182	223	1
27	✓	✓	✓	[188	171	176]	257	266	270	297	308	[227]	234	216	203	196	197	196	209	185	197	198	210	241	262	245	241	225	1
28	✓	✓	✓	231	219	234	266	258	292	314	316	302	263	(239)	211	216	223	227	222	237	233	232	199	232	246	222	168	242	0
29	✓	✓	✓	207	268	317	328	318	311	312	316	320	335	312	282	281	(250)	232	222	210	214	221	240	245	257	269	285	273	0
30	✓	✓	✓	284	304	315	324	316	336	350	358	363	360	341	341	302	244	215	211	209	222	243	245	291	268	269	303	292	0
31																													
MEANS * 30 DAYS				235	247	255	265	273	281	292	306	294	277	256	232	210	199	194	194	194	195	193	195	205	218	226	237	236	
MEANS † 19 DAYS				233	236	249	265	273	280	292	313	307	292	269	244	225	210	207	206	205	211	206	208	218	231	240	249	245	
MEANS ‡ 17 DAYS				235	242	254	270	279	286	301	319	318	300	275	249	227	212	208	205	204	211	205	206	218	232	243	253	248	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 124

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	118	114	120	120	116	116	122	132	128	122	125	129	134	129	(128	130)	130	128	122	123	130	133	136	154	127	1
2	✓	✓		143	158	177	169	191	181	163	187	149	165	166	149	152	151	149	147	144	143	144	146	140	146	136	139	156	1
3	✓			144	143	147	164	159	171	119	108	102	112	125	127	132	132	133	130	128	120	112	93	121	142	171	197	135	1
4	✓	✓	✓	172	165	218	267	284	281	293	296	313	280	209	169	165	152	143	114	107	130	133	122	125	123	150	197	192	0
5	✓	✓	✓	235	246	244	254	277	288	324	338	328	273	224	220	197	165	157	166	168	185	169	183	215	265	277	238	235	0
6	✓			223	253	290	299	311	310	323	352	348	330	311	247	185	164	154	144	157	134	121	112	121	111	118	121	218	1
7	✓	✓	✓	132	157	173	175	191	181	179	189	181	197	213	199	176	144	155	158	154	159	177	187	185	186	209	244	179	0
8	✓			247	319	307	266	309	366	479	520	501	406	334	260	168	157	(146	139)	134	132	132	122	[128	181	165	211]	255	0
9	✓	✓	✓	[251	250	204	206	267	271	224	247	250	274]	221	197	180	159	175	166	172	165	129	147	169	166	155	147	200	1
10	✓	✓	✓	166	163	168	172	181	189	198	222	290	332	323	296	235	212	223	225	210	212	190	163	126	111	109	169	204	0
11	✓	✓	✓	243	266	276	307	298	318	318	330	332	341	312	268	237	215	218	219	220	234	216	232	223	240	267	279	267	0
12	✓	✓	✓	277	305	333	371	384	354	363	332	333	284	238	223	220	209	203	206	200	207	188	168	142	185	204	253	258	0
13	✓			290	307	300	286	289	311	330	318	294	259	221	247	229	143	119	118	119	118	112	109	107	98	133	142	208	1
14	✓	✓	✓	133	125	[113	178	200	166	215	305]	323	304	255	222	186	176	176	165	156	159	162	168	178	201	[200	233]	196	0
15	✓	✓	✓	[173	132	192	273	223	292	344	333	300]	340	330	321	264	234	(203)	189	165	146	143	108	123	182	257	297	232	0
16	✓			312	343	401	441	489	459	440	383	390	291	234	182	136	127	137	134	142	156	139	128	164	146	113	142	251	2
17	✓			155	152	152	182	156	128	142	157	158	121	108	132	148	146	132	121	121	113	127	137	134	147	157	177	142	1
18	✓	✓	✓	230	233	222	226	278	313	339	360	329	294	256	188	158	155	143	143	141	130	133	135	166	214	203	224	217	0
19	✓			226	226	186	165	182	225	222	215	220	193	168	157	121	107	173	126	122	142	166	152	120	135	128	87	165	2
20	✓			161	116	178	156	165	105	119	112	132	143	139	142	154	156	155	147	129	109	108	119	134	134	141	143	137	1
21	✓	✓	✓	142	130	159	146	159	175	188	242	203	173	179	168	168	175	168	155	127	119	144	143	114	143	140	[148]	159	0
22	✓	✓		[210	152	168	169	192	222	183	135	202	189	211]	189	192	188	(194)	214	218	212	207	183	213	225	210	227	196	0
23	✓	✓	✓	232	252	267	257	[248	225]	289	326	329	306	300	264	234	225	207	181	164	166	180	199	222	269	278	264	245	0
24	✓			243	210	189	209	231	264	291	282	319	319	208	171	179	179	180	178	155	129	[107	85	68	144	120	152	192	1
25	✓			[134	227	234	211	182	191	215	303	211	221]	232	235	216	191	161	148	139	128	133	147	196	208	202	235	196	1
26	✓			226	232	266	277	245	223	209	209	207	154	143	143	107	116	119	129	121	95	93	99	[95	144	140	87]	162	1
27	✓	✓	✓	[118	95	119	147	180	199	209	213	159	156	133	151]	158	155	157	146	132	119	120	126	151	188	166	170	153	1
28	✓	✓	✓	150	135	156	175	177	212	244	245	271	234	(212)	177	193	221	211	190	189	179	165	152	171	192	168	119	189	0
29	✓	✓	✓	148	196	243	267	252	257	253	247	273	290	285	265	266	243	(215)	189	180	177	186	193	188	223	257	264	232	0
30	✓	✓	✓	265	289	303	300	300	331	353	357	347	342	332	334	287	234	210	198	185	177	191	185	227	222	235	256	269	0
31																													
MEANS * 30 DAYS				197	203	217	228	237	244	256	266	264	248	225	206	186	172	168	160	154	151	148	146	153	173	178	191	199	
MEANS † 19 DAYS				186	188	203	220	232	241	253	265	265	258	238	217	200	186	181	174	166	166	163	161	169	190	198	212	206	
MEANS ‡ 17 DAYS				187	191	206	226	236	245	262	277	276	267	244	223	203	188	182	173	165	164	162	161	168	191	201	215	209	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 125

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1926

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	67	50	50	50	46	50	46	37	42	46	50	59	88	83	71	62	75	75	71	67	62	62	55	50	59	0
2	✓	✓	✓	50	55	46	⌈ 55	55	50	46	75⌋	55	62	73	85	81	83	85	81	73	75	67	81	75	N 88	107	103	71	1
3	✓	✓		73	69	69	50	60	50	50	57	91	103	95	N 88	N 83	107	91	95	100	100	100	91	100	100	95	103	84	1
4	✓	✓	✓	103	100	88	103	100	95	91	71	88	79	91	83	83	88	88	88	88	95	91	83	83	83	71	71	88	0
5	✓	✓	✓	83	83	83	83	88	83	83	83	79	91	83	75	88	79	75	83	79	59	50	55	62	62	60	50	75	0
6	✓			48	48	60	67	73	62	57	60	46	60	81	65	57	71	151	105	103	97	85	77	65	69	65	77	73	0
7	✓			62	69	71	69	65	77	75	62	100	100	100	89	100	102	85	95	97	100	86	73	77	77	77	77	83	0
8				85	97	85	Z	163	181	189	233	Z	Z	Z	Z	Z	Z	Z	−33	Z	Z	Z	Z	114	Z	Z	Z		2
9				Z	Z	136	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z		2
10				Z	Z	N103	119	124	136	127	107	103	119	102	97	95	93	N 75	85	81	73	88	Z	Z	75	Z	89		1
11				89	85	81	N 83	112	97	85	85	91	89	79	62	62	N 71	Z	127	N 79	85	88	85	77	83	83	81		1
12	✓	✓	✓	89	88	79	85	79	71	67	62	71	79	89	N 85	88	89	103	102	102	89	71	75	83	65	73	77	82	1
13	✓	✓		103	117	109	⌈ 158	146	158	149	159	100	79⌋	71	83	83	88	91	85	85	73	⌈ 69	77	107	127	107	85⌋	105	0
14	✓	✓		81	71	67	83	79	71	75	67	62	67	75	75	75	79	79	67	71	71	62	50	N 42	N 46	67	67	69	1
15				62	71	67	62	N 37	Z	Z	50	Z	Z	N 85	Z	83	Z	59	N 62	62	83	88	Z	Z	103	133	103		2
16	✓	✓		117	109	N 53	85	117	115	117	143	151	129	119	109	112	109	112	127	131	119	112	107	107	95	83	83	111	1
17				88	71	67	62	71	88	⌈ 163	171	100⌋	71	62	N103	79	N 79	91	112	Z	Z	Z	Z	Z	Z	103	N 91		2
18				N127	N 71	127	—	—	—	—	—	103	100	103	100	Z	Z	Z	N 27	71	N 23	N 55	95	100	83	95	79		2
19				83	83	69	69	69	65	62	55	62	124	126	100	100	95	107	Z	N124	N119	Z	Z	Z	—	—	—		2
20				—	—	—	—	—	—	—	—	—	124	129	Z	105	93	N 89	102	107	Z	N 53	N 37	Z	71	69	N 65		1
21				69	81	107	N 88	81	N 62	85	97	105	109	Z	Z	N 16	N 16	Z	39	N 69	88	N 71	88	107	N112	Z	Z		2
22				Z	112	Z	107	107	103	95	83	100	107	100	107	95	100	114	112	114	114	112	105	100	95	89	97		1
23				97	⌈ 107	129	158	127	119	114	102	91	105⌋	103	102	97	97	100	103	103	102	85	75	—	—	—	—		0
24				—	—	—	—	—	—	—	—	—	—	—	85	77	81	85	91	83	77	62	88	79	67	67	67		—
25				71	67	62	71	75	⌈ 75	69⌋	79	69	69	65	53	79	Z	Z	N 35	N 55	69	55	65	91	100	79	112		1
26	✓	✓	✓	100	103	115	107	107	103	91	103	103	112	115	100	83	95	103	103	100	100	95	103	91	95	88	91	100	0
27				79	71	71	79	75	55	59	67	62	75	75	Z	107	119	112	107	107	119	107	91	100	107	100	91		1
28	✓	✓	✓	91	91	83	91	100	107	88	103	100	88	88	83	83	88	83	95	88	67	62	62	79	75	83	112	87	0
29				91	⌈ 214	225	202	103	62⌋	62	59	75	67	Z	Z	Z	Z	103	Z	Z	Z	Z	N 46	79	83	91	95		2
30				91	95	100	79	91	100	95	103	107	115	71	N 85	112	81	N 77	Z	103	N 79	57	79	75	79	81	85		1
31				81	71	71	62	50	50	⌈ 55	55⌋	59	55	71	75	Z	Z	N 75	Z	Z	Z	Z	Z	Z	Z	Z	N 95		2
MEANS ✱ 13 DAYS				82	81	75	84	86	84	80	83	84	84	87	83	85	89	94	91	92	86	79	77	79	80	79	80	84	
MEANS † 11 DAYS				87	85	77	86	89	87	82	87	86	85	86	84	86	90	89	90	90	84	77	77	81	82	81	81	85	
MEANS ‡ 7 DAYS				83	81	78	82	82	80	73	76	77	80	84	81	85	86	87	88	86	80	72	75	76	76	77	79	80	

DESIGNATIONS AND REMARKS:

✱ = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { } = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 126

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.8	10.4	72	20.4	2.7		6.2	..	0	NNW	1	WSW	8	..	0	ACu	1- 3	ACu; CuNb	4- 6	
2	744.8	10.7	92	18.8	3.9		6.6	..	0	NNW	1	WNW	15	WNW	6	Cu; Nb	4- 6	Cu; Nb	4- 6	Heavy fog till 8h5; rain at 19h and at night
3	744.6	12.3	86	15.6	5.3	0.10	3.7	NNW	1	W	6	SW	12	WSW	1	CuNb; Nb	7-10	CuNb; Nb	7-10	Frequent showers during day; clear at night
4	746.2	10.7	95	16.1	6.5	0.04	0.7	WSW	1	..	0	WSW	6	SSW	1	Cu	4- 6	Cu	4- 6	
5	745.6	10.5	74	17.6	6.1		6.4	..	1	N	1	..	0	..	0	Cu	4- 6	Cu	1- 3	
6	741.4	8.0	85	16.2	1.9		1.6	NW	1	NNW	3	WSW	8	W	1	Cu; CuNb	7- 8	Cu; CuNb	4- 6	Rain in late am
7	739.9	12.4	75	17.8	3.0	0.02	5.5	N	1	NW	4	WNW	16	NNW	8	Cu; CuNb	7- 8	Cu; CuNb	7- 8	Overcast at night with some rain
8	731.5	13.1	90	13.9	10.9	0.26	2.7	..	0	W	18	W	22	NW	2	Nb	7-10	Nb	7-10	Rain all day and evening
9	732.0	10.0	89	15.1	7.0	0.51	3.0	NW	2	WNW	6	W	15	WSW	8	Cu; Nb	7-10	Cu; Nb	7-10	Occasional heavy showers
10	737.4	11.0	95	15.4	6.8	0.44	4.2	WSW	4	WSW	..	W	11	WNW	4	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Rain in am and evening
11	738.0	10.0	91	15.1	4.6	0.08	3.4	NW	1	WSW	2	WSW	8	..	0	Cu; CuNb	7- 8	Cu; CuNb	7- 8	Light showers at intervals
12	743.5	10.5	93	16.6	4.8	0.05	5.2	W	1	..	0	SSE	3	SSW	2	Cu; Nb	7- 8	Cu; Nb	7- 8	Shower before 12h
13	747.9	7.8	91	15.1	2.2	0.03	9.0	S	3	..	0	E	8	SE	4		0	CiSt; FrCu	1- 3	Fog up to 8h
14	743.9	7.4	86	12.8	2.3		0.0	..	0	ENE	1	ENE	4	..	0	ACu; Nb	10	ACu; Nb	9-10	Light rain early
15	736.8	9.2	94	15.0	7.5	0.12	0.3	NE	1	N	4	N	10	N	3	Nb	10	Nb	10	Rain at intervals during day and night
16	736.0	14.2	90	18.9	9.0	0.34	5.0	NNW	4	WNW	4	W	15	NW	2	Cu; Nb	7- 8	Cu; Nb	7- 8	Clear at night
17	738.5	12.3	98	17.4	7.2	0.03	0.6	NNW	1	N	3	NW	9	NW	13	Nb	7- 8	Nb	10	Heavy fog till 9h; heavy showers in pm and evening
18	735.2	13.9	73	16.8	8.5	0.44	5.5	W	5	W	7	WNW	20	WNW	3	CuNb; Nb	7-10	CuNb; Nb	7-10	Heavy showers at intervals; clearing in evening
19	734.9	12.6	87	18.7	7.7	0.18	4.3	N	3	N	6	NW	20	NW	2	Cu; StCu; CuNb	4- 6	CuNb; Nb	7-10	Heavy rain in evening
20	731.3	15.3	68	18.6	11.9	0.92	6.0	W	17	NW	15	WNW	36	W	21	Cu; StCu; CuNb	7-10	CuNb; Nb	7-10	Rain in am, late pm, and evening
21	734.8	14.5	68	15.4	11.5	0.21	4.1	WNW	12	W	16	W	22	W	10	Cu; CuNb; Nb	7- 8	CuNb; Nb	7-10	Rain at frequent intervals
22	743.8	9.8	78	14.5	4.1	0.28	5.9	SW	5	W	1	SW	8	SSW	2	Cu; FrCu; StCu	4- 6	CiSt; StCu; FrCu	4- 6	
23	748.9	9.0	76	15.8	1.2		9.1	SSE	1	E	3	ENE	13	ENE	5	CiSt; CiCu; ASt	1- 3	CiSt; CiCu; ASt	1- 3	Frost early
24	746.4	11.6	42	19.1	4.0		3.8	NE	5	NNE	12	NE	12	N	3	CiCu; ASt	4- 6	CiCu	10	Front early
25	743.0	14.5	43	15.4	10.2		0.0	NW	1	NNW	11	WNW	8	W	4	ASt; NbSt	10	ASt; NbSt	10	Rain at intervals after 11h
26	744.3	12.8	87	18.6	6.6	0.15	5.2	WNW	3	WNW	3	W	10	WNW	3	Cu; Nb	7-10	Cu; Nb	7-10	Light showers in am
27	742.3	10.6	96	18.5	5.0	0.02	1.5	N	2	N	2	W	14	NNW	3	Cu; Nb	7-10	Cu; Nb	7-10	Occasional light showers; fog in evening
28	742.4	15.1	91	20.3	7.8	0.06	5.1	NW	2	WNW	4	W	13	NW	1	CiCu; ACu; Nb	7-10	CiCu; ACu; Nb	7-10	
29	738.7	14.1	99	19.8	10.8	0.01	0.1	NW	3	N	4	WNW	21	WSW	5	ASt; Nb	10	ASt; Nb	10	Fog till 8h; rains in late am, pm, and evening
30	740.4	13.3	77	16.9	6.9	0.47	4.7	WNW	1	WNW	4	WSW	13	..	0	Cu; Nb	7-10	Cu; Nb	7-10	Showers during day and evening
31	740.5	10.2	94	16.0	5.7	0.09	3.2	..	0	..	0	W	9	W	4	Cu; Nb	7-10	Cu; Nb	7-10	Showers in pm and evening
SUM						4.85														
MEAN	740.6	11.5	83	16.8	6.2		4.0		2.6		4.6		12.5		3.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 127

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	297	326	355	369	380	401	384	463	503	473	415	327	231	203	197	187	185	190	194	[185]	212	248	273	302	304	0
2	✓	✓	✓	319	284	332	[328]	356	384	355	291]	409	397	281	⌒	177	176	173	166	171	172	177	180	181	166	154	150	249	1
3	✓	✓		159	164	197	217	230	239	234	227	176	191	184	177	170	172	164	162	162	162	185	194	198	212	201	201	191	1
4	✓	✓	✓	204	221	233	238	242	259	278	329	302	273	222	197	191	190	186	187	184	182	179	194	189	189	201	212	220	0
5	✓	✓	✓	198	208	211	208	222	227	243	227	223	214	212	214	225	225	230	223	220	237	260	255	238	259	271	313	232	0
6				351	381	403	366	338	432	429	414	390	338	258	233	215	(190	181)	172	167	176	199	233	264	267	271	266		0
7				299	313	344	392	395	367	369	420	279	234	189	176	170	164	172	171	163	170	173	187	200	199	200	200		0
8	✓			197	197	198	}153{	176	172	159	164	}111{	131	119	123	154	167	150	}141{	158	150	150	124	176	140	172	124	154	2
9	✓			}145{	181	195	176	199	184	187	177	171	176	172	175	182	167	155	182	173	135	163	138	148	159	145	139	168	2
10	✓			}155{	144	171	172	189	194	199	186	177	186	171	173	176	179	179	184	187	187	185	}173{	175	176	}163{	187	178	1
11	✓			189	197	221	223	211	215	234	238	226	221	203	204	200	190	}170{	195	198	200	212	214	226	226	225	236	211	1
12	✓	✓	✓	228	231	232	222	250	285	[295	294]	331	304	232	217	209	201	203	200	197	203	210	209	212	234	227	226	236	1
13	✓	✓		185	175	171	161	147	141	147	[124	247	275]	285	238	219	(223	227	231	236)	240	[225	234	175	161	187	247]	204	0
14	✓	✓		278	298	307	307	310	321	327	354	[332]	354	332	307	272	273	275	}267{	266	200	285	293	279	291	}305{	320	298	1
15				347	319	333	328	319	}307{	284	324	185	102	298	272	}268{	249	247	231	223	214	—	—	—	210	180	171		2
16	✓	✓		166	138	162	204	186	181	176	170	172	163	150	139	147	147	145	148	152	157	161	173	172	191	214	222	168	1
17	✓			223	236	258	256	244	236	[127	122	150]	210	186	182	173	161	173	172	}117{	157	158	147	130	148	}147{	145	177	2
18	✓			150	136	143	158	171	162	163	173	168	150	145	}147{	140	140	147	159	}159{	}135{	144	}144{	148	162	168	161	153	2
19	✓			172	161	163	173	189	197	199	206	214	175	148	148	140	144	149	147	161	155	}123{	91	97	155	143	82	}156{	2
20	✓			135	148	148	147	144	138	147	147	144	147	131	}120{	101	(74)	82	93	91	120	107	107	101	}117{	111	110	121	1
21	✓			115	124	120	119	134	135	132	127	136	148	}147{	136	161	158	153	}162{	155	161	153	149	161	159	}152{	150	}144{	2
22	✓			}161{	170	155	}172{	171	181	199	191	197	193	186	185	173	185	177	175	182	181	187	191	205	211	212	210	185	1
23	✓			198	197	181	176	199	209	209	214	[222	206]	201	210	219	225	222	201	204	[198	150	168	212]	226	245	249	206	0
24	✓			248	243	244	227	233	247	237	234	223	212	197	187	185	181	181	179	177	182	187	177	189	201	212	228	209	
25	✓			236	245	256	261	259	236	228	236	239	247	238	242	234	}186{	208	}203{	197	199	185	181	166	158	161	153	215	1
26	✓	✓	✓	166	171	176	175	177	197	209	201	201	184	176	172	163	164	168	170	168	172	186	197	199	191	187	199	182	0
27	✓			212	238	264	282	306	337	329	377	347	307	234	194	176	(171)	171	173	171	175	189	197	181	176	184	193	233	1
28	✓	✓	✓	194	200	208	210	194	187	186	193	193	186	179	176	170	162	162	164	171	173	176	186	189	195	190	175	184	0
29	✓			199	[77	77	109	176	191]	167	140	153	187	}181{	170	159	135	132	114	163	153	130	161	}163{	159	150	159	150	2
30	✓			161	175	179	191	199	198	190	187	185	181	155	159	161	161	159	159	175	176	187	200	200	197	194	187	180	1
31	✓			195	221	233	247	286	292	[273	288]	294	286	194	186	}163{	109	172	148	122	167	162	147	168	172	}172{	171	203	2
MEANS * 28 DAYS				196	197	207	210	221	227	222	224	230	228	203	189	181	174	175	175	175	176	179	179	182	189	192	195	197	
MEANS † 11 DAYS				218	220	235	240	245	257	258	261	281	274	243	215	198	194	194	191	192	190	203	209	204	212	219	233	224	
MEANS ‡ 7 DAYS				229	234	250	250	260	277	279	285	309	290	245	215	195	189	188	185	185	190	197	201	203	212	215	225	230	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 128

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	264	273	298	330	373	360	368	413	478	448	375	297	208	178	159	157	135	125	132	[107]	164	199	222	277	265	0
2	✓	✓	✓	269	255	309	[296	343	365	353	369]	366	364	267	180	155	144	149	143	142	141	142	142	147	130	111	86	224	1
3	✓	✓		87	105	120	147	155	181	177	155	147	151	144	147	130	132	127	126	119	111	107	106	109	142	148	129	133	1
4	✓	✓	✓	130	141	147	143	166	188	182	220	224	202	168	154	155	148	140	135	127	120	113	120	121	129	125	127	151	0
5	✓	✓	✓	130	108	132	133	130	142	152	156	144	133	159	168	169	176	178	168	146	165	194	188	197	208	255	278	167	0
6				313	374	393	348	290	368	408	390	377	320	240	221	190	—	—	—	—	—	—	—	—	—	—	—		0
7				—	—	—	—	—	—	—	—	—	—	171	159	146	144	143	140	132	137	143	151	173	169	178	171		0
8	✓			178	166	180	}202{	143	127	121	128	}122{	159	171	156	120	120	116}	136	}135{	128	86	139	112	109	109	96}	136	2
9	✓			}96{	119	113	95	85	103	67	45	46	49	95	82	74	85	69	59	73	74	108	133	113	116	100	116}	88	2
10	✓			}76	119}	116	112	105	107	119	119	123	143	125	141	156	150	152	147	143	148	130	}135{	151	147	}133{	127	130	1
11	✓			130	133	164	179	140	149	176	178	168	164	164	168	172	176	162	144	148	132	122	135	157	164	165	168	157	1
12	✓	✓	✓	155	155	164	150	157	204	[216	220]	267	236	178	176	175	179	166	164	149	133	143	144	148	186	181	177	176	1
13	✓	✓		136	120	118	[86	88	86	87	85	182	222]	246	213	201	198	(199	188)	191	209	[188	170	119	107	123	199]	157	0
14	✓	✓		238	263	254	245	271	279	287	288	[275]	312	310	278	244	243	}245{	234	229	178	233	244	244	236}	254	266	256	1
15				277	271	277	271	267	}252{	237	273	246	208	277	264}	240	}230{	224	211	199	189	178	}221{	218}	180	142	144		2
16	✓	✓		135	119	164	173	132	129	132	115	129	136	132	120	127	121	121	120	119	105	106	119	126	148	180	190	133	1
17	✓			176	177	200	208	194	181	[96	96	134]	180	178	156	150	144	150	139	}175{	164	158	169	206	152}	132	132	160	2
18	✓			122	122	108	99	120	120	108	98	128	132	109	114	118	109	105	109	109	}109{	106}	113	107	}108{	87}	109	111	2
19	✓			111	125	109	128	140	158	164	175	189	133	98	101	86	95	107	133	132	130	}168{	221	155	152	182	180}	140	2
20	✓			129	123	122	120	120	111	111	119	134	121	88	}87{	66}	72	76	75	81	}92{	82	85	102	106	99	105	101	1
21	✓			100	99	101	101	126	125	107	101	115	133	}148{	169	169	168	158}	143	147	142	143	132	122	122	}111{	121}	129	2
22	✓			}116	112	129}	94	109	108	119	113	150	144	154	154	154	163	156	148	139	118	105	121	142	133	150	142	132	1
23	✓			[132	120	96	79	122	126	141	150	201	190	198]	203	212	222	211	199	190	[172	142	154	187]	196	213	222	170	0
24	✓			221	215	212	200	201	219	206	190	202	[178	135]	170	168	164	166	162	157	156	175	144	169	180	192	211	183	–
25	✓			209	219	242	235	234	223	224	231	232	233	238	240	221	}200{	224}	209	180	169	161	154	134	130	136	128	200	1
26	✓	✓	✓	122	129	111	109	126	136	133	152	173	156	152	157	147	143	144	137	132	127	115	129	156	142	125	120	136	0
27	✓			165	192	211	244	264	287	291	309	305	281	224	183	163	164	(157)	150	141	132	130	132	133	152	144	141	196	1
28	✓	✓	✓	146	152	168	165	150	150	157	155	178	159	155	164	162	157	157	144	144	151	155	142	146	152	143	132	154	0
29	✓			142	[55	57	73	140	166]	144	128	125	165	}170{	178	180	123	112	178	176	190	189	148}	120	112	111	112	137	2
30	✓			118	120	116	140	143	141	140	144	157	144	142	129	134	133	132	141	143	133	139	123	130	134	129	129	135	1
31	✓			155	170	170	189	200	251	[232	245]	231	257	173	158	}129{	165	156	154	147	120	118	94	108	129	112	132}	166	2
MEANS * 28 DAYS				150	150	158	160	167	176	172	175	190	190	175	166	155	153	150	148	145	138	139	141	144	147	149	155	158	
MEANS † 11 DAYS				167	165	180	180	190	201	204	212	233	229	208	187	170	165	162	156	148	142	148	146	152	162	170	180	177	
MEANS ‡ 7 DAYS				177	173	190	189	206	224	223	241	261	243	208	185	167	161	156	150	139	137	142	139	154	164	166	171	182	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 129

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				Z	88	95	112	112	112	104	88	106	85	92	77	85	71	N 56	92	90	92	92	92	88	81	83	90		1
2	✓	✓	✓	94	104	116	107	114	107	94	94	95	92	79	77	85	69	65	69	71	69	67	69	69	69	69	69	84	0
3	✓	✓		69	73	77	88	85	[83	85	130]	81	67	56	62	58	60	67	60	65	47	62	67	62	71	92	90	73	0
4	✓	✓	✓	102	116	130	124	114	102	79	83	[94]	69	81	92	94	104	102	69	83	95	106	107	102	102	77	73	96	0
5	✓	✓	✓	73	88	69	90	81	100	94	83	88	118	106	102	102	100	109	109	118	118	109	104	104	94	95	94	98	0
6	✓	✓	✓	77	83	92	85	97	88	83	95	106	114	94	N 90	N 92	90	90	90	92	95	92	92	83	75	79	88	90	1
7	✓	✓	✓	77	71	69	73	88	88	69	83	102	106	97	88	88	92	92	83	83	79	77	65	40	56	62	58	79	0
8	✓	✓	✓	49	58	60	62	54	51	45	47	49	54	81	81	85	85	95	88	90	95	94	88	77	51	36	38	67	0
9	✓	✓	✓	51	54	56	60	54	49	51	49	45	47	54	67	71	73	88	88	88	88	79	67	67	58	45	45	62	0
10				40	49	62	45	49	54	49	67	71	75	83	95	92	88	79	88	104	132	Z	161	144	88	79	49		1
11	✓	✓	✓	32	45	36	49	71	58	40	40	58	79	88	88	71	67	79	92	95	100	95	88	79	75	75	71	70	0
12				62	67	79	95	88	79	83	88	79	128	Z	Z	Z	Z	Z	116	104	112	107	95	92	92	104	92		1
13	✓	✓		83	71	71	54	79	71	45	N 45	88	83	92	75	92	N 83	104	88	107	100	112	107	92	83	79	62	82	1
14	✓	✓		83	104	107	116	107	95	100	124	120	100	88	104	100	100	107	104	104	107	102	85	88	81	75	85	99	0
15	✓	✓		81	62	75	75	71	60	65	106	116	97	100	81	100	83	85	104	100	95	90	88	92	102	109	106	89	0
16	✓	✓	✓	104	107	104	88	95	107	102	95	(92	83)	90	79	85	75	85	88	94	92	104	79	81	94	88	88	92	0
17	✓	✓	✓	85	97	95	102	97	77	67	71	102	88	83	85	75	81	79	83	92	88	88	92	83	75	88	104	87	0
18	✓	✓		95	100	88	126	114	88	94	83	54	132	100	92	97	88	92	83	95	95	67	79	71	92	95	112	93	0
19				[92	79	75	88	107	67	67	69	112]	75	79	88	77	65	54	58	60	65	Z	N 51	77	62	81	77		1
20	✓	✓		75	[77	79	69	69	71	79	107]	73	58	71	79	92	88	100	97	95	95	88	81	79	69	60	71	80	0
21	✓	✓		62	45	[54	77	75	130	140	88]	95	60	58	73	79	85	85	83	88	88	58	45	32	36	36	49	72	0
22				49	N 45	67	Z	Z	34	27	N 14	62	85	130	Z	Z	Z	Z	Z	Z	49	100	100	112	104	100	100		2
23	✓			88	100	104	116	121	128	124	[77	102]	102	90	88	81	90	95	97	94	85	83	77	77	73	88	85	94	0
24	✓	✓		95	94	[83	100	109	114	90	95]	107	90	85	94	100	109	118	126	121	104	81	109	[162	156	152	138]	110	0
25	✓	✓	✓	126	107	107	97	95	83	77	75	69	62	60	77	92	109	114	118	107	112	112	100	88	79	[71	92]	93	0
26				81	94	102	109	[90	126	124	56	43]	Z	N 79	95	Z	Z	142	Z	Z	Z	Z	Z	Z	Z	92	97		2
27				Z	Z	114	112	100	N 92	95	79	92	95	81	88	79	88	90	94	104	107	107	104	116	116	120	112		1
28	✓	✓		116	120	116	112	107	120	104	95	83	77	83	75	85	100	109	104	94	90	81	N 77	N 106	97	118	121	100	1
29	✓	✓	✓	142	147	142	142	124	120	92	92	100	97	88	97	88	94	94	94	92	102	75	67	95	135	121	97	106	0
30	✓	✓	✓	92	95	109	109	112	102	97	100	75	71	73	77	79	71	79	90	77	67	58	69	81	79	69	51	83	0
31	✓	✓	✓	56	69	81	81	69	65	65	81	104	94	95	92	92	102	109	121	120	109	106	95	81	94	118	120	92	0
MEANS * 24 DAYS				84	87	88	92	92	90	83	85	87	85	83	84	87	87	93	93	94	92	87	83	83	83	83	84	87	
MEANS † 23 DAYS				83	86	88	91	90	88	81	85	87	84	83	84	87	87	93	93	94	93	87	83	83	84	83	84	87	
MEANS ‡ 14 DAYS				83	89	91	91	90	86	75	78	84	84	84	85	86	87	91	92	93	94	90	84	81	81	78	78	86	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALU

TABLE 130

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
								02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
	BAR. PRESS.	A.R. TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.6	9.9	87	14.4	5.4	0.33	2.8	SSW	3	WSW	1	WSW	10	WNW	2	StCu; Cu	7-10	StCu; Cu	7-10	Occasional showers
2	745.5	12.6	74	15.4	6.9	0.05	3.4	WSW	5	SW	5	S	7	S	2	St; StCu; Cu	7- 8	St; StCu; Cu	7- 8	Mist early
3	748.2	9.0	80	16.7	1.6		8.4	SSW	1	..	0	NE	2	..	0	CiSt; ACu; FrCu	4- 6	CiSt; ACu; ASt	1- 3	Fog and frost early
4	745.5	10.3	74	20.4	1.0		9.5	..	0	..	0	NNW	1	SSW	4		0	St	1- 3	Frost early
5	743.1	12.5	78	16.2	5.4		7.4	SSW	2	..	0	SW	7	W	1	FrCu; Cu	1- 6	FrCu; Cu	7- 8	Clear in evening
6	743.9	13.2	73	15.0	6.6		3.7	NW	1	W	6	SSW	13	SW	2	Cu; StCu	4- 6	Cu; StCu	4- 6	
7	748.9	12.5	77	17.5	5.4	0.04	3.1	..	0	SW	3	SW	8	S	2	Cu; StCu; Nb	9- 4	Cu; StCu	4- 6	Clearing in evening; dew at 20h
8	748.2	12.3	80	19.4	3.7		7.6	..	0	N	1	W	4	SW	3	Cu; FrCu	4- 6	Cu; FrCu	4- 6	Dew early; clear at night
9	743.6	10.1	87	17.7	2.5		1.8	NNW	1	N	2	W	10	W	2	Cu; FrCu	7- 8	Cu; FrCu	7- 8	Dew early
10	740.2	11.2	89	19.1	3.6	0.01	3.6	NW	1	N	4	WNW	14	W	4	Cu; ACu; ASt	7- 8	Cu; ASt; Nb	7- 8	Dew or mist early; rain at night
11	744.2	12.4	85	17.7	4.2	0.11	5.2	..	0	..	0	W	5	W	5	Cu; FrCu	7- 8	Cu; FrCu	7- 8	
12	741.4	12.6	81	17.0	5.8	T	2.3	NW	2	NNW	4	WSW	10	W	1	Cu; Nb	7-10	Cu; Nb	7-10	Frequent showers during day and evening
13	742.7	12.5	95	16.0	5.8	0.28	3.3	NNW	1	NNW	3	W	16	WSW	1	Cu; Nb	7-10	Cu; Nb	7-10	Showers at intervals; cloudy at night
14	744.8	14.1	82	17.7	7.3	0.03	4.2	WNW	1	WNW	2	SW	11	SW	3	Cu; Nb	7- 8	Cu; Nb	7- 8	Light showers at intervals
15	748.0	11.6	96	17.7	5.7	0.02	3.9	..	0	..	0	SSW	6	SW	3	Cu; Nb	7- 8	Cu; Nb	7- 8	Light showers at intervals
16	747.6	12.6	66	16.6	7.1	0.01	1.0	SW	2	SW	2	SW	5	SW	2	Cu; NbSt	7-10	Cu; NbSt	7-10	
17	744.3	13.8	64	16.0	9.4		0.2	WNW	1	WSW	1	WSW	3	SW	3	Cu; Nb	7- 8	Cu; Nb	7- 8	
18	739.1	12.4	93	17.3	8.3	0.07	4.2	..	0	WSW	5	WSW	10	..	0	Cu; Nb	7- 8	Cu; Nb	7- 8	Occasional light showers; rain at night
19	742.9	10.9	91	16.7	5.4	0.03	2.0	..	0	..	0	N	1	..	0	Cu; StCu; FrCu	7- 8	Cu; StCu; FrCu	7- 8	Fog and dew early; rain in evening
20	744.3	12.4	95	20.6	6.6	0.05	6.4	NNW	1	NNW	3	W	5	..	0	FrCu; StCu	4- 6	FrCu; StCu	1- 3	Fog and dew early
21	744.1	12.0	92	21.2	6.1	0.01	8.3	..	0	NNE	2	N	6	..	0	Cu	4- 6	Cu	4- 6	Heavy fog till 9h.5
22	734.8	12.3	89	14.3	10.4	0.38	2.5	NNW	2	W	15	WNW	18	WNW	4	CuNb; Nb	10	CuNb; Nb	10	Frequent showers during day; clear in evening
23	742.9	13.6	70	15.8	9.2	0.53	1.8	W	4	WSW	7	WSW	10	WSW	1	Cu; St	4- 6	Cu; St	4- 6	Dew early and perhaps fog; dew in evening
24	747.3	10.5	80	16.1	5.3	0.02	7.0	..	0	E	5	E	4	SE	4	CiCu	4- 6	CiCu	4- 6	Dew and fog early
25	744.2	13.0	57	22.8	2.2	T	10.2	SSE	1	NNE	1	W	5	SW	1		0		0	Dew early
26	737.1	11.5	93	14.1	3.6		2.3	..	0	N	6	SW	18	SSW	13	Cu; Nb	7-10	Cu; Nb	7-10	Heavy fog till 8h.5; raining after 9h
27	746.4	9.1	87	14.9	3.8	0.49	5.6	SW	1	SSW	2	SSW	15	SSW	5	Cu; StCu	4- 6	Cu; StCu	1- 3	
28	746.9	12.0	70	17.1	9.0		3.5	SW	5	WSW	3	W	12	S	4	Cu; Nb	7-10	Cu; Nb	7-10	Showers in pm and evening
29	749.7	9.1	65	14.3	3.2	0.06	7.5	S	4	ESE	5	SSE	6	S	4	CiSt; Cu	4- 6	CiSt; Cu	4- 6	
30	748.8	10.3	60	18.0	0.0		10.3	..	0	..	0	SW	1	SW	5		0		0	Frost early
31	741.1	10.3	66	18.9	1.2		3.7	SSW	2	..	0	W	10	WNW	1	CiSt; CiCu	9-10	CiSt; CiCu; ACu	9-10	
SUM						2.52														
MEAN	744.3	11.7	80	17.3	5.2		4.7		1.3		2.8		8.2		2.6					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			166	173	185	186	190	194	210	233	216	201	191	182	182	179	177	173	162	166	175	176	180	184	190	175	185	1
2	✓	✓	✓	167	167	168	181	163	167	171	167	173	181	175	172	176	182	181	176	186	182	185	185	199	209	210	215	180	0
3	✓	✓		210	204	194	191	191	⌈221	203	167	242⌋	273	267	217	214	212	204	205	219	221	217	223	247	220	195	190	214	0
4	✓	✓	✓	184	171	167	166	215	248	278	275	⌈266⌋	198	262	227	222	(203	193)	194	199	209	200	206	200	199	225	225	215	0
5	✓	✓	✓	239	237	240	227	245	227	237	254	272	209	191	187	185	182	173	175	175	175	182	187	206	223	226	220	211	0
6	✓	✓	✓	210	205	222	223	201	208	206	200	180	176	166	166	166	171	173	176	180	177	185	184	190	206	217	223	192	1
7	✓	✓	✓	227	238	260	244	220	217	227	253	217	205	189	184	185	177	177	175	182	186	185	199	209	214	212	237	209	0
8	✓	✓	✓	260	272	286	297	341	372	381	379	371	322	227	182	182	185	172	168	162	162	162	176	179	200	236	233	246	0
9	✓	✓	✓	249	248	238	247	265	307	326	335	319	313	247	179	170	164	163	161	159	170	177	195	220	256	287	305	238	0
10	✓			311	314	286	347	345	336	332	322	272	262	209	182	173	(166	159)	171	175	177	≷130≶	158	162	170	172	185	230	1
11	✓	✓	✓	211	222	214	245	262	301	355	378	372	318	227	185	180	177	176	173	163	162	168	175	179	199	210	216	228	0
12	✓			236	232	223	221	248	240	244	231	226	214	≷135	167	135	148	147≶	157	163	179	189	184	186	189	≷158	175≶	193	1
13	✓	✓		204	≷221	189	253	231	278≶	311	312	256	220	171	154	148	147	161	158	155	161	167	175	186	181	191	212	202	1
14	✓	✓		197	181	199	201	212	230	201	182	182	189	175	173	175	167	161	164	170	170	177	198	203	220	225	210	190	0
15	✓	✓		223	234	254	⌈238	291⌋	306	326	250	230	186	189	195	191	185	185	186	185	184	189	180	197	199	203	200	217	0
16	✓	✓	✓	203	211	214	251	240	219	197	194	181	189	184	185	180	177	181	168	170	173	175	186	186	186	197	197	194	0
17	✓	✓	✓	208	208	212	216	227	251	260	247	225	216	206	203	211	(199)	195	198	182	177	180	199	199	222	234	220	212	0
18	✓	✓		212	223	234	211	206	232	223	219	197	186	177	177	170	173	172	168	173	175	176	199	≷219≶	208	189	(203)	197	0
19	✓			⌈145	217	222	190	190	256	272	293	189⌋	281	264	227	209	199	214	219	≷211	204	180	197≶	206	220	214	216	218	1
20	✓	✓		237	⌈238	233	239	239	225	236	189⌋	239	307	249	199	185	176	173	164	164	166	179	189	204	219	223	234	213	0
21	✓	✓		260	284	⌈285	233	199	168	172	226⌋	191	269	277	221	186	175	155	154	154	159	176	194	238	250	272	306	217	0
22				321	≷284	259	162	114≶	197	176	≷148≶	157	155	154	≷158	161	161	128	114	149≶	162	157	164	166	—	—	—		2
23				—	—	—	—	—	—	—	—	172	166	172	173	176	179	185	181	182	177	193	199	208	225	236	225		0
24	✓	✓		217	223	⌈247	234	164	201	217	155⌋	186	216	217	198	185	(182)	180	164	168	177	197	⌈153	99	101	117	132⌋	180	0
25	✓	✓	✓	155	176	193	216	226	244	259	288	317	312	317	261	198	170	168	161	158	150	153	161	166	175	⌈190	154⌋	207	0
26	✓			⌈144	152	186	211	262	236	214	292⌋	331	231	185	173	≷102	172≶	179	≷168	164	158	122	138	152	163≶	168	167	186	2
27	✓			≷155	150≶	170	177	173	172	173	186	180	182	172	171	170	173	175	170	167	171	173	181	179	185	187	182	174	1
28	✓	✓		182	181	176	190	191	182	179	185	185	184	168	171	181	176	173	173	173	168	161	161	164	148	158	135	173	1
29	✓	✓	✓	135	140	148	157	164	179	186	197	176	175	162	164	164	157	163	167	179	187	190	205	177	145	143	157	167	0
30	✓	✓	✓	173	170	167	185	186	199	186	201	231	248	222	223	220	231	233	233	230	236	234	219	220	219	233	253	215	0
31	✓	✓	✓	284	251	239	248	272	302	293	250	204	222	222	211	205	(185)	166	171	170	180	185	195	214	190	190	204	219	0
MEANS * 29 DAYS				207	212	215	222	226	239	244	243	235	231	208	191	181	179	177	176	176	178	178	185	192	197	202	206	204	
MEANS † 23 DAYS				211	213	216	222	224	238	245	239	235	231	212	193	186	181	177	175	176	179	183	189	196	200	208	212	206	
MEANS ‡ 14 DAYS				208	208	212	223	230	246	254	258	250	235	214	195	189	183	180	178	178	180	183	191	196	203	215	218	209	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 132

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1926

DAY	*	†	‡	0-1	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			134	133	116	103	75	100	100	134	126	149	165	147	152	150	146	135	129	122	120	129	125	129	142	134	129	1
2	✓	✓	✓	130	121	119	116	95	101	105	108	128	142	143	143	154	157	164	147	152	143	137	142	143	156	166	169	137	0
3	✓	✓		166	166	164	152	139	163	156	96	182	235	243	198	198	193	185	183	177	183	171	172	191	194	154	155	176	0
4	✓	✓	✓	143	129	125	144	165	200	211	219	209	276	246	220	209	186	(180)	172	182	181	156	156	157	154	180	172	182	0
5	✓	✓	✓	206	186	181	180	187	165	178	190	210	169	165	163	169	161	148	148	147	132	123	120	137	163	165	156	165	0
6	✓	✓	✓	157	144	164	171	154	151	149	135	154	143	136	141	140	154	148	146	142	140	128	127	126	150	158	151	146	1
7	✓	✓	✓	152	188	201	175	134	143	168	169	169	150	152	157	156	154	152	151	146	143	135	144	150	180	176	191	160	0
8	✓	✓	✓	232	246	224	223	257	321	352	343	347	290	188	165	165	163	144	137	132	115	108	120	121	140	181	203	205	0
9	✓	✓	✓	218	210	226	231	242	275	288	300	320	309	243	170	155	148	142	137	133	130	127	151	168	219	266	285	212	0
10	✓			300	296	256	288	294	309	320	289	247	241	209	177	168	161	(150)	150	146	132	141	120	108	120	112	107	202	1
11	✓	✓	✓	119	172	187	187	200	250	321	343	317	265	197	170	166	166	155	152	146	132	132	129	144	158	173	185	190	0
12	✓			203	191	178	172	183	199	200	190	197	181	129	127	139	134	122	123	125	121	109	120	120	125	98	118	150	1
13	✓	✓		144	155	149	208	172	232	266	279	234	200	151	132	122	123	132	130	125	126	125	120	107	126	135	154	160	1
14	✓	✓		136	126	133	122	141	159	151	120	139	152	151	149	149	143	135	132	128	119	102	121	125	148	168	144	137	0
15	✓	✓		154	193	194	164	186	238	276	178	141	148	150	163	164	171	164	155	140	130	130	132	134	135	130	132	163	0
16	✓	✓	✓	132	137	133	163	171	147	130	132	135	141	139	148	148	148	143	136	132	129	120	127	129	128	129	150	139	0
17	✓	✓	✓	147	140	156	156	151	171	182	187	165	186	155	169	171	(163	162)	164	149	133	137	139	143	154	181	162	159	0
18	✓	✓		171	181	183	155	128	161	150	148	143	134	144	149	148	157	157	146	143	140	140	134	140	157	127	(146)	149	0
19	✓			98	146	161	154	135	187	235	212	135	220	238	200	200	190	182	177	171	154	165	177	156	164	155	156	174	1
20	✓	✓		188	183	193	185	207	204	215	168	234	296	242	188	173	169	156	146	140	132	121	133	148	159	186	190	182	0
21	✓	✓		224	233	218	176	178	152	152	196	177	231	258	196	182	171	155	152	139	134	162	187	214	236	263	298	195	0
22				301	265	227	207	192	168	132	144	140	133	126	112	105	96	103	132	128	126	123	122	127	—	—	—		2
23				—	—	—	—	—	—	—	—	132	128	136	143	144	143	144	146	140	134	129	132	139	172	162	162		0
24	✓	✓		149	136	140	136	92	128	141	107	159	192	207	183	178	162	(150)	137	123	140	148	107	73	80	86	100	136	0
25	✓	✓	✓	121	134	154	180	188	208	227	222	273	292	303	240	187	157	147	136	135	122	120	127	135	140	146	116	175	0
26	✓			137	135	166	172	229	199	198	265	320	220	165	142	189	134	118	115	142	143	165	179	152	132	130	120	169	2
27	✓			130	125	75	74	94	113	95	121	139	144	144	141	146	143	144	137	132	129	118	119	122	129	120	121	123	1
28	✓	✓		118	126	121	107	121	121	122	141	136	142	161	151	156	162	155	148	146	137	136	142	129	122	108	95	133	1
29	✓	✓	✓	85	73	83	92	98	101	137	146	147	155	164	158	154	147	154	154	156	135	152	165	134	98	93	108	129	0
30	✓	✓	✓	120	144	120	141	133	142	164	163	196	223	206	207	210	223	219	201	190	182	189	180	170	180	199	215	180	0
31	✓	✓	✓	223	224	198	198	233	208	256	201	159	175	190	200	199	183	(166)	152	152	154	143	140	152	151	139	141	181	0
MEANS * 29 DAYS				160	165	163	163	165	181	195	190	194	200	186	169	167	161	154	148	145	138	137	140	140	149	154	158	163	
MEANS † 23 DAYS				158	163	164	164	164	180	196	187	195	202	188	172	168	164	157	151	146	140	137	140	142	153	161	166	165	
MEANS ‡ 14 DAYS				156	161	162	168	172	184	205	204	209	208	188	175	170	165	159	152	150	141	136	140	144	155	168	172	168	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 133

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				162	146	101	132	75	82	82	90	80	84	82	90	88	96	113	113	108	98	96	88	Z	N 70	129	113		1
2				132	N 72	Z	N110	Z	125	125	116	101	Z	108	Z	75	102	101	96	96	102	106	116	118	110	108	92		1
3	✓	✓	✓	92	92	86	82	88	82	75	78	70	84	90	66	80	110	90	104	110	98	106	96	94	108	106	94	91	0
4	✓	✓	✓	90	98	96	88	92	84	88	108	106	101	96	115	113	123	131	146	151	127	106	115	106	110	127	127	110	0
5	✓	✓	✓	127	123	118	118	115	102	98	90	73	66	57	57	61	66	73	78	80	80	72	66	72	72	73	80	84	0
6	✓	✓	✓	78	80	84	88	101	88	86	78	63	57	59	63	73	86	90	84	82	75	57	61	61	54	61	66	74	0
7	✓	✓	✓	61	45	49	54	54	49	40	49	54	57	57	70	82	98	106	98	90	82	84	70	68	63	70	82	68	0
8	✓	✓		90	82	90	167	179	127	92	N 49	61	45	32	57	63	47	61	68	75	102	106	98	102	106	110	120	89	1
9	✓	✓	✓	116	106	101	102	102	90	86	78	82	86	98	86	90	90	98	98	102	98	98	86	90	90	90	102	94	0
10	✓	✓	✓	106	102	143	139	139	143	115	106	102	104	92	86	88	94	88	88	80	82	72	80	86	88	98	116	102	0
11	✓	✓	✓	146	132	116	120	113	101	84	73	70	70	73	73	75	75	80	78	80	68	63	66	82	86	102	102	89	0
12	✓	✓	✓	98	78	70	70	70	66	61	66	70	70	70	73	82	90	86	82	82	88	86	88	90	102	102	84	80	0
13	✓	✓		94	94	90	88	80	66	66	61	59	56	51	59	61	70	75	70	78	82	82	82	90	106	102	131	79	0
14	✓	✓		115	143	131	131	135	127	108	104	106	98	90	88	92	90	102	90	94	86	86	96	101	102	94	72	103	0
15	✓	✓	✓	59	66	51	63	68	57	49	61	70	84	90	82	102	90	90	86	98	86	78	86	86	84	82	70	77	0
16	✓	✓	✓	68	75	82	92	96	73	68	75	70	78	82	88	90	88	92	92	92	96	94	92	98	98	102	110	87	0
17	✓			118	127	123	151	110	110	102	86	73	73	82	90	98	98	98	70	57	82	90	63	63	66	78	73	91	0
18	✓	✓		94	108	211	229	236	102	172	246	110	82	106	94	115	104	108	108	110	110	108	90	82	90	96	102	126	0
19	✓	✓	✓	120	151	143	143	125	101	94	98	94	98	115	102	115	110	98	102	98	90	106	106	106	110	113	104	110	0
20	✓	✓	✓	90	78	66	84	90	90	82	73	66	61	61	66	73	82	86	90	90	90	90	102	90	82	66	61	80	0
21				61	57	49	54	57	54	57	70	86	68	70	61	Z	Z	Z	Z	Z	132	113	96	84	115	129	131		2
22	✓	✓	✓	129	132	132	120	108	110	102	98	84	88	92	78	96	88	108	104	102	102	106	98	101	98	102	104	103	0
23	✓	✓	✓	88	94	108	115	108	94	88	94	101	110	113	96	94	98	110	108	108	104	88	96	106	139	120	149	105	0
24	✓	✓		160	190	146	115	108	92	75	75	75	84	98	101	104	106	101	104	101	88	80	80	72	59	72	70	98	0
25	✓	✓		73	66	66	56	54	61	49	70	78	80	86	92	101	125	118	101	102	101	102	90	94	90	82	82	84	0
26				73	78	70	73	73	61	70	73	86	66	Z	Z	Z	Z	73	Z	118	Z	Z	102	90	102	110	115		1
27	✓	✓		160	278	211	135	196	218	172	110	61	73	N 90	70	82	78	82	86	94	90	90	94	90	66	45	27	112	1
28				36	40	32	27	27	—	—	—	45	54	57	54	54	61	61	66	70	78	78	82	57	68	73	68		0
29	✓	✓		49	49	47	43	40	36	38	43	40	54	66	66	63	68	82	86	80	78	75	73	84	90	82	101	64	0
30	✓	✓		167	70	123	151	120	92	120	45	57	80	82	90	90	88	88	90	90	94	110	118	123	139	135	135	104	0
31																													
MEANS * 25 DAYS				104	106	107	110	109	94	88	85	76	78	81	80	87	90	94	92	93	91	89	88	89	92	92	95	92	
MEANS † 24 DAYS				103	106	107	108	109	94	88	84	76	78	81	80	87	90	93	93	95	92	89	89	91	93	93	95	92	
MEANS ‡ 15 DAYS				98	97	96	99	98	89	81	82	78	81	83	80	88	93	95	96	96	91	87	87	89	92	94	97	90	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌜ ⌟ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 134

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.5	13.8	89	19.8	8.6	0.03	3.7	..	0	NNW	3	NW	17	WNW	15	Cu; Nb	7-10	Cu; Nb	7-10	A few light showers; rain in evening
2	743.4	10.8	69	14.6	7.9	0.24	6.0	WSW	16	SW	11	WSW	12	SSW	3	Cu; Nb	7- 8	Cu; Nb	7- 8	Rain very early, and showers during day
3	748.5	11.1	73	15.3	3.2	0.01	3.0	..	0	..	0	SE	1	SSW	3	Cu; Nb	7-10	Cu; Nb	7-10	
4	748.2	12.3	62	17.3	1.5		10.4	S	2	..	0	SE	6	SE	5	CiSt	10	CiSt	10	Light frost early
5	745.6	14.1	56	24.9	3.9		8.0	SSE	4	..	4	E	2	SSE	4	Ci; CiSt	10	Ci; CiSt	10	Dew early
6	742.9	18.7	45	29.1	7.0		10.3	S	4	E	1	W	4	SSW	3	CiSt	10	CiSt	10	
7	741.4	18.2	55	29.4	4.7		10.1	..	0	N	1	WNW	18	WNW	1	CiSt	1- 3	CiSt	10	CiCu 4-6 in evening
8	741.9	14.1	93	15.6	12.0	T	0.0	NW	2	SW	11	SW	8	SW	3	Nb	7-10	Nb	7-10	Fine rair very early and through day
9	748.0	12.0	62	17.7	5.1	0.01	2.2	SSW	1	SW	1	S	5	SSW	2	Cu; StCu	7- 8	Cu; StCu	7- 8	Dew in evening
10	751.3	11.7	67	19.6	3.3		10.7	S	4	ESE	7	ESE	5	SE	5	Ci	1- 3	Ci	1- 3	Dew early
11	747.8	16.5	40	24.3	4.2		10.8	SSE	4	NE	6	ENE	5	SE	3	CiSt	10	CiSt	10	
12	741.3	19.8	26	29.9	5.5		8.9	N	1	NNE	4	N	9	W	13	Ci; CiSt	7-10	Ci; CiSt	7-10	
13	736.5	19.5	64	25.4	11.5		6.6	WNW	1	NNW	2	W	15	WNW	6	CiSt; CiCu	7- 8	ACu	7- 8	Lightning in SW in evening; rain at night
14	742.3	15.3	52	19.7	9.7	0.02	10.3	SW	5	SW	14	SSW	7	SW	3	FrCu	1- 3	FrCu	1- 3	Hazy early; clear in evening
15	746.5	15.5	57	24.3	2.0		10.7	..	0	..	0	NW	1	SW	3		0		0	Dew early
16	744.4	20.3	34	29.3	3.9		10.9	..	0	NNE	3	WNW	1	S	3		0		0	Dew early
17	742.4	22.3	24	32.1	6.7		10.1	SE	3	NE	3	NNW	12	SSW	1		0		0	Fire in NW and smell of smoke in pm
18	743.8	16.8	79	22.4	5.9	T	6.0	..	0	..	0	WSW	10	S	3	FrCu; Cu	7- 8	FrCu; Cu	7- 8	Dense fog till $8^{h}.5$
19	746.5	16.4	48	23.5	8.4		9.2	SSW	2	SE	5	W	1	S	3	ASt	1- 3	ASt	1- 3	Dew early
20	742.0	15.9	59	26.8	5.9		7.7	..	0	WNW	1	W	12	SW	2	Ci; CiSt; CiCu	4- 6	Ci; CiSt; CiCu	1- 3	
21	738.2	18.0	67	20.7	6.6		0.9	NW	1	WNW	13	SSW	7	SSW	4	Cu; StCu; CuNb	10	Cu; StCu; CuNb	10	Raining in pm
22	745.1	12.5	60	16.9	8.0	0.75	3.6	SSW	3	SSE	5	SSW	6	SSW	5	Cu; StCu	4- 6	Cu; StCu	4- 6	
23	748.9	13.0	57	17.8	4.1		10.4	S	2	ESE	8	ESE	8	SE	5		0		0	Dew early
24	745.5	15.1	35	22.8	1.1		10.8	SE	1	NE	9	NNW	6	SSW	2		0		0	
25	739.9	18.0	47	25.2	2.4		11.3	SW	1	..	0	WNW	10	W	1		0		0	Smell of smoke at 12^{h}
26	736.0	16.2	90	20.1	8.2	T	2.0	N	1	NW	12	W	14	W	1	CuNb; Nb	10	CuNb; Nb	10	Heavy rains throughout day
27	738.9	15.0	95	20.8	11.4	0.32	4.8	WNW	3	NW	..	W	12	SW	2	StNb; Cu	10	Cu	7- 8	Drizzling rain during am; clear at night
28	741.5	16.3	76	21.4	5.3	0.06	4.5	..	0	N	1	WNW	7	..	0	St	7- 8	FrCu	7- 8	
29	741.5	18.0	72	23.8	5.7		7.9	..	0	NNW	3	W	8	WSW	4	Cu; FrCu	7- 8	Cu; FrCu	1- 3	
30	737.6	13.0	69	24.0	9.7		7.5	..	0	NW	6	WNW	18	WNW	6	Cu; FrCu	7- 8	Cu; FrCu	7- 8	Heavy fog early; possibly smoky in pm
31																				
SUM						1.44														
MEAN	743.6	15.9	61	22.5	6.1		7.3	2.0		4.6		8.2		3.8						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 135

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				200	214	[219	159	290]	261	267	262	257	219	200	289	182	170	167	167	166	173	178	171	140	129	130	141		1
2	✓			153	146	154	169	157	156	166	170	178	156	175	170	174	173	181	178	179	179	191	189	194	207	219	222	176	1
3	✓	✓	✓	242	254	276	275	273	281	272	277	282	239	215	215	204	211	211	212	207	204	208	221	219	221	217	221	236	0
4	✓	✓	✓	236	235	247	271	254	261	247	238	219	216	203	177	157	144	130	127	116	131	149	153	166	159	158	169	190	0
5	✓	✓	✓	177	183	195	192	198	213	221	253	292	309	(318	296	270)	256	238	233	211	212	217	225	229	233	248	242	236	0
6	✓	✓	✓	248	245	238	231	240	247	262	282	339	359	352	322	278	236	227	217	215	217	231	245	235	253	254	257	260	0
7	✓	✓	✓	282	319	311	308	318	335	359	348	326	332	298	208	157	126	(116)	115	140	156	166	177	186	196	207	204	237	0
8	✓	✓		203	199	183	141	140	135	133	152	170	162	157	154	157	156	156	165	165	175	175	178	179	189	192	189	167	1
9	✓	✓	✓	181	196	202	210	211	222	239	249	224	199	194	190	189	190	182	181	173	175	185	202	204	207	221	212	202	0
10	✓	✓	✓	206	190	154	167	170	179	182	196	185	185	182	203	200	191	200	194	200	198	194	182	170	166	167	159	184	0
11	✓	✓	✓	144	165	191	196	194	199	224	283	292	304	261	230	227	219	207	202	203	208	204	208	216	203	196	198	216	0
12	✓	✓	✓	221	278	334	345	344	368	381	378	354	298	292	258	216	207	191	194	183	174	175	181	178	173	171	195	254	0
13	✓	✓		192	185	169	203	208	215	194	219	222	208	196	175	169	165	165	167	159	167	167	154	165	165	167	153	181	0
14	✓	✓		140	142	146	154	161	170	169	157	156	154	154	167	170	(163)	157	159	165	166	162	167	185	194	200	231	166	0
15	✓	✓	✓	249	243	283	259	245	262	304	283	268	242	204	186	175	177	170	175	178	170	145	156	194	220	221	213	218	0
16	✓	✓	✓	211	219	212	211	220	258	283	302	307	268	268	230	206	199	195	186	185	179	190	189	195	[186	178	165]	218	0
17				—	—	—	—	—	—	—	—	298	272	286	236	192	[167	91	130	163]	204	219	227	230	234	220	212		0
18	✓	✓		[178	157	141	112	127	198	154	138	202]	192	153	153	156	152	150	146	149	154	157	159	170	183	186	185	160	0
19	✓	✓	✓	182	177	196	199	203	216	220	217	196	178	158	142	138	142	159	170	167	167	152	157	157	174	175	179	176	0
20	✓	✓	✓	192	220	248	257	215	196	215	235	268	295	262	248	225	175	182	179	174	169	166	169	182	213	226	261	216	0
21	✓			270	281	293	308	282	243	234	181	152	153	144	150	109	(116)	48	73	150	145	149	152	156	169	167	170	179	2
22	✓	✓	✓	165	157	169	186	195	198	204	199	189	181	173	178	178	170	169	166	163	156	163	171	175	182	195	198	178	0
23	✓	✓	✓	220	219	207	203	208	229	226	215	204	166	145	158	179	165	156	156	154	154	149	142	152	142	152	144	177	0
24	✓	✓		141	153	204	238	257	271	318	344	317	273	222	203	191	187	170	157	156	165	179	195	219	242	236	253	220	0
25	✓	✓		252	281	283	319	357	344	383	323	268	231	194	183	162	42	69	137	107	157	153	154	161	167	178	192	212	0
26	✓			210	219	261	256	235	245	243	217	162	170	165	131	149	150	158	158	153	140	141	142	154	159	166	[152]	181	1
27	✓	✓		[133	84	113	142	102	87	101	126]	177	157	161	152	146	140	141	144	145	148	156	169	181	198	206	217	147	1
28	✓			213	210	244	281	290	327	(348	348)	351	266	189	173	173	(158)	156	157	156	156	163	182	212	217	216	215	225	0
29	✓	✓		245	267	287	311	337	381	401	354	297	215	167	167	166	157	154	157	166	165	163	162	156	153	158	174	223	0
30	✓	✓		165	[175	75	112	144	156	126	220]	220	144	140	130	126	123	113	109	107	111	116	124	127	129	130	133	136	0
31																													
MEANS * 28 DAYS				202	207	215	223	224	235	243	247	243	223	205	191	180	168	163	165	165	168	170	175	183	189	193	197	199	
MEANS † 24 DAYS				200	206	211	218	222	234	242	250	249	229	211	197	185	171	167	169	166	170	172	177	183	190	193	198	200	
MEANS ‡ 15 DAYS				210	220	231	233	233	244	256	264	263	251	235	216	200	187	182	180	178	178	180	185	191	195	199	201	213	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 136

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	—	—	194	185	170	(162	155)	146	137	144	146	145	169	126	111	128		1
2	✓			129	144	152	143	139	133	132	136	138	145	145	154	155	156	158	150	145	139	112	107	109	129	141	145	139	1
3	✓	✓	✓	156	158	200	194	194	204	213	228	234	215	192	185	169	166	179	169	161	157	127	136	155	146	144	166	177	0
4	✓	✓	✓	164	168	181	163	185	219	216	172	170	198	199	167	156	143	120	115	106	116	110	111	121	116	123	118	152	0
5	✓	✓	✓	126	145	154	156	168	188	192	225	289	308	315	310	289	268	248	239	202	201	204	207	213	226	235	228	222	0
6	✓	✓	✓	237	230	227	211	210	227	244	256	314	327	333	323	277	238	219	211	215	197	228	228	219	233	226	241	245	0
7	✓	✓	✓	266	282	319	318	319	330	378	336	318	320	297	218	156	115	(109	119)	132	151	146	155	162	175	185	169	228	0
8	✓	✓		169	168	160	103	109	126	124	144	146	145	151	144	134	144	142	141	136	127	120	123	121	132	124	114	135	1
9	✓	✓	✓	118	132	134	144	151	158	169	164	176	176	170	170	166	167	168	168	157	154	136	142	151	158	169	157	156	0
10	✓	✓	✓	145	127	93	109	120	120	139	166	181	185	186	199	199	188	195	192	199	181	167	157	144	144	137	121	158	0
11	✓	✓	✓	105	129	149	155	169	179	210	264	290	296	270	241	244	231	204	194	195	198	182	172	157	169	155	164	197	0
12	✓	✓	✓	191	246	287	315	327	351	361	349	333	306	296	255	213	197	184	192	192	172	166	169	164	157	152	155	239	0
13	✓	✓		148	145	144	168	179	197	169	195	199	200	201	175	169	156	157	161	148	146	149	136	144	143	141	127	162	0
14	✓	✓		116	97	106	109	119	116	119	131	132	133	145	155	162	168	(160)	158	149	143	120	131	131	132	154	178	136	0
15	✓	✓	✓	160	207	244	226	228	238	294	265	245	211	184	179	162	169	160	160	150	136	131	109	155	181	184	182	190	0
16	✓	✓	✓	167	170	174	176	192	231	269	266	297	273	281	238	218	201	188	179	168	168	157	166	169	[144	132	118	198	0
17				—	—	—	—	—	—	—	—	284	273	281	246	204	[185	92	55	154]	201	192	202	195	208	214	204		0
18	✓	✓		[145	134	96	83	110	186	134	129	182]	181	146	144	144	142	133	131	128	123	120	131	124	115	129	129	134	0
19	✓	✓	✓	121	105	121	146	157	155	166	174	180	173	157	137	131	131	142	154	149	134	132	136	129	120	121	124	141	0
20	✓	✓	✓	152	158	190	204	157	169	176	181	254	277	274	262	240	182	191	181	169	166	146	138	144	158	170	244	191	0
21	✓			264	253	277	282	248	204	190	168	144	143	143	146	168	156	(190)	138	81	107	112	119	127	118	116	112	167	2
22	✓	✓	✓	106	98	107	123	118	116	157	162	167	163	157	167	164	157	150	146	144	141	133	133	131	142	148	148	141	0
23	✓	✓	✓	164	152	150	146	155	170	180	195	198	167	145	167	190	175	160	154	150	143	123	105	112	105	111	90	150	0
24	✓	✓		100	96	148	181	208	240	294	324	324	280	230	202	190	182	169	156	149	156	155	160	187	192	197	235	198	0
25	✓	✓		232	263	267	275	343	337	354	273	244	214	190	184	169	46	66	127	116	143	129	121	120	121	144	179	194	0
26	✓			192	190	237	235	227	232	230	202	167	158	124	150	115	144	129	143	119	136	119	103	102	106	107	[109	157	1
27	✓	✓		[106	66	77	106	70	55	67	102]	158	133	132	134	136	133	132	129	128	121	116	120	127	148	143	156	116	1
28	✓			178	168	214	263	273	308	339	338	343	245	178	168	168	158	154	145	138	132	121	128	161	169	174	192	202	0
29	✓	✓		232	241	277	305	314	364	388	348	308	204	157	155	148	151	148	143	146	139	126	133	131	124	[128	112]	205	0
30	✓	✓		[94	134	64	90	118	137	110	204]	210	139	120	123	119	115	106	101	98	103	102	106	106	106	106	110	118	0
31																													
MEANS * 28 DAYS				160	164	177	183	190	203	215	218	226	211	197	188	177	164	159	157	149	148	139	139	143	147	150	154	173	
MEANS † 24 DAYS				155	160	170	175	184	201	213	219	231	218	205	193	181	165	160	159	154	151	143	143	147	149	152	157	174	
MEANS ‡ 15 DAYS				159	167	182	186	190	204	224	227	243	240	230	215	198	182	174	172	166	161	153	151	155	158	159	162	186	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 137

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		}109	193	176	N101	118	105	101}	105	105	89	80	75	71	89	89	84	80	84	84	89	93	101	105	96	101	1
2				101	—	—	—	—	—	—	—	84	75	67	69	71	69	80	80	84	84	86	84	—	—	—	—		0
3				—	—	—	—	—	—	—	—	54	69	67	65	71	69	65	} Z	Z	Z	Z	Z	158	193	Z	Z }		2
4				} Z }	138	150	150	140	150	141	119	109	109	89	80	96	96	103	93	82	98	103	101	107	114	116	118		1
5	✓	✓	✓	109	124	89	69	54	40	54	86	93	101	84	93	96	105	93	89	96	98	105	114	114	119	114	98	93	0
6	✓	✓	✓	67	86	⌈ 71	71	93	65⌋	71	73	101	101	109	101	101	96	105	109	114	133	132	126	118	96	107	98	98	0
7	✓	✓	✓	105	93	95	98	93	91	89	71	67	69	73	73	75	78	89	86	95	89	89	75	67	80	62	58	82	0
8				49	49	45	40	49	49	⌈109⌋	62	75	93	(80	78)	} 73	N 47	Z	Z	Z	Z	158	133	109	Z	Z	Z }		2
9	✓	✓		⌈163	155	163	173	138⌋	121	121	109	105	93	93	75	N 84	96	101	89	89	75	93	96	80	75	93	96	107	1
10	✓	✓	✓	96	114	118	114	109	75	67	80	101	101	89	89	96	101	109	105	109	101	114	114	114	130	114	101	103	0
11	✓	✓	✓	109	118	114	130	138	121	101	93	91	91	93	91	105	109	105	107	109	109	93	⌈133	114⌋	105	114	109	108	0
12				118	130	158	165	153	⌈ Z	Z	158⌋	105	95	93	98	101	96	109	114	105	101	93	96	96	105	109	101		0
13	✓	✓	✓	109	109	114	109	105	84	80	89	103	98	103	103	109	116	112	105	98	112	138	130	133	126	118	130	110	0
14	✓	✓	✓	136	150	119	148	140	128	128	112	82	86	80	82	80	82	91	98	109	84	71	118	114	114	109	118	107	0
15	✓	✓	✓	130	126	133	114	71	58	58	67	89	96	109	114	114	118	118	⌈138	133	132	160	132	153	136⌋	80	82	111	0
16	✓	✓		73	58	67	67	65	80	}141	126	126	114	80}	75	80	80	80	58	80	84	89	95	98	101	98	116	89	0
17	✓	✓		118	}161	133	93	95	67	118}	133	105	105	101	89	89	89	80	75	75	78	75	71	69	65	56	49	91	0
18				⌈ 31	71	56	45	89	75⌋	54	51	60	62	71	82	71	75	73	} 73	Z }	109	128	105	93	109	109	98		1
19	✓	✓	✓	98	103	96	89	73	67	75	67	89	71	71	71	71	84	89	89	93	75	84	80	71	62	58	54	78	0
20	✓	✓	✓	54	40	36	40	40	36	40	40	49	58	49	67	75	75	75	71	78	89	86	86	91	103	116	121	67	0
21				133	118	126	105	96	} Z	N153	Z	Z	Z	Z	105	93	93	Z	Z	Z	Z	Z	Z	Z	N 89}	118	130		2
22	✓	✓		118	130	141	138	105	105	105	} 95	91	65	N 51	67	78	69	71	98	62	95	80	98	105	105	84	109}	94	1
23	✓	✓		109	96	105	80	67	58	96	105	89	67	62	} 62	71	71	80	71	71	75	67	75	54	78	71	86}	78	0
24	✓	✓	✓	98	86	95	101	103	82	75	82	84	86	84	82	89	89	89	93	93	93	93	96	93	93	84	93	90	0
25	✓	✓		91	69	78	89	96	89	78	71	75	86	91	95	95	93	105	109	114	114	96	96	⌈161	168	193	188⌋	106	0
26	✓	✓		⌈181	188	158	126	93⌋	58	58	49	54	54	49	49	54	62	67	67	71	71	62	67	89	80	⌈101	141⌋	85	0
27	✓	✓		⌈158	141	121	118	105	80	58⌋	49	51	67	73	71	96	N 78	86	89	93	114	133	121	118	114	93	109	97	1
28	✓			114	105	89	109	105	96	96	80	75	49	67	67	71	58	67	62	75	93	96	101	150	140	136	136	93	0
29	✓	✓	✓	118	126	133	109	82	84	109	96	89	84	84	93	84	84	93	84	89	101	114	130	114	130	130	138	104	0
30				133	133	165	173	150	118	96	67	58	62	67	75	89	93	101	91	86	91	93	116	118	119	138	—		0
31				—	—	—	—	—	—	140	95	75	69	67	71	75	80	80	105	96	93	84	93	96	114	⌈130	96⌋		0
MEANS * 22 DAYS				112	117	111	104	95	81	87	85	87	83	81	81	86	87	91	90	92	95	98	102	105	106	102	106	96	
MEANS † 21 DAYS				112	117	112	104	94	81	87	86	88	85	81	82	86	89	92	91	93	96	98	102	103	104	100	104	96	
MEANS ‡ 12 DAYS				102	106	101	99	92	78	79	80	86	87	86	88	91	95	97	98	101	101	107	111	108	108	100	100	96	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER }{=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 138

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	734.4	17.7	56	19.9	13.1	0.06	7.2	WNW	14	W	17	W	20	WNW	3	Cu; FrCu	7- 8	Cu; FrCu	7- 8	Rain in early hours; clear at night
2	739.4	16.3	49	20.6	8.2		6.6	NNW	1	SW	11	W	10	..	0	Cu	7- 8	Cu	7- 8	Dew early; clear at night
3	735.1	18.1	63	22.9	6.0		3.2	N	1	NNW	14	WNW	24	W	19	NbSt	10	NbSt	10	Dew early; raining through day
4	738.5	14.5	48	16.9	10.3	0.41	6.2	WSW	12	SW	20	SW	17	SW	3	Cu; StCu; FrCu	7- 8	Cu; StCu; FrCu	7- 8	Rain in very early hours
5	743.1	15.6	61	20.4	9.7		7.1	SSW	1	SSW	5	SW	7	SW	4	Cu	7- 8	Cu	7- 8	Dew early; clear in evening
6	742.5	14.8	62	22.2	3.5		11.0	..	0	W	1	W	5	SSW	3	Cu	4- 6	Cu	1- 3	Dew early; clear in evening
7	739.8	18.6	52	28.4	5.7		11.7	SSE	1	ENE	7	NW	8	..	0	CiSt	1- 3		0	Dew early
8	731.8	19.5	64	25.3	7.5		5.1	..	0	NNW	13	NW	28	W	17	Cu; CuNb	7- 8	CuNb; Nb	10	Fog early; raining in pm and evening
9	736.8	15.8	52	17.9	10.5	0.33	5.6	WSW	10	SW	13	SW	14	WSW	2	Cu; FrCu	4- 6	Cu; FrCu	4- 6	
10	742.3	16.5	53	20.5	10.5		4.7	SW	3	SW	8	SW	12	SSW	3	Cu; FrCu	7- 8	Cu; FrCu	7- 8	Dew early; clear in evening
11	746.0	15.8	54	21.1	7.5		11.5	SSW	2	ESE	11	SE	7	S	3	FrCu	6- 1	FrCu	1- 3	Dew early; smoky in pm; cloudless at night
12	742.6	17.3	60	23.1	9.3		8.2	S	3	SSE	1	SSW	10	SSW	7	CiCu; FrCu	4- 6	CiCu; FrCu	4- 6	Heavy fog early; cloudy at night
13	742.3	16.4	57	22.9	8.3		11.1	SW	2	SSE	10	SSE	5	S	6	FrCu	7- 8	FrCu	6- 1	Dew early; clear at night
14	742.3	18.7	46	28.2	4.8		11.7	SE	2	ENE	3	NE	1	SSW	(2)		0		0	Dew early; fires in NW and SW in pm
15	736.3	23.4	28	24.5	7.2		11.2	S	1	W	6	W	14	WSW	4	Ci	4- 6	ACu	4- 6	Dew early
16	737.3	17.6	90	22.8	10.8	0.06	4.6	NW	2	W	10	W	17	W	2	ACu; Cu	7- 8	ACu; Cu	7- 8	Light rain in early hours; cloudy at night
17	740.2	18.6	67	23.4	12.1	0.04	6.0	W	2	WSW	7	W	10	WSW	2	Cu; StCu	4- 6	Cu; StCu	4- 6	Shower early in am
18	737.7	18.5	67	22.3	9.0		2.4	..	0	NW	10	WNW	26	SW	4	Cu; Nb	7-10	Cu; Nb	7-10	Fog early; rain in pm and at night
19	741.9	15.2	57	19.4	5.2	0.06	6.7	WSW	3	W	5	W	7	SW	2	Cu; CuNb	7- 8	Cu; StCu	4- 6	Fine rain in am
20	738.3	16.2	60	22.1	5.1		1.8	NNW	1	NNW	5	WNW	16	NNW	11	CiCu; StCu; Cu	7- 8	CiCu; StCu; Cu	7- 8	Dew early
21	731.2	17.0	91	21.2	14.7	0.23	3.1	NW	15	W	16	WNW	24	WSW	(8)	StCu; CuNb	7-10	StCu; CuNb	7-10	Rain in earliest hours and through day
22	736.5	15.3	70	19.4	7.2	0.21	1.7	NW	..	WNW	16	W	22	W	8	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Rain at frequent intervals
23	741.5	17.5	70	20.1	13.9	0.09	0.9	WSW	7	WSW	8	WSW	9	..	0	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Fine rain at intervals
24	745.8	17.8	63	24.1	14.7	T	7.7	SW	1	SW	3	SW	4	S	5	Cu; St	7-10	CiSt; ACu; Cu	4- 6	
25	748.8	18.5	63	28.4	8.3		11.6	S	2	ESE	6	SSE	3	S	3		0		0	Perhaps haze over sky; fires in E and NW
26	747.2	25.8	36	33.7	10.8		11.8	SSE	3	ENE	6	E	2	S	4		0		0	Dew early; fires in NW and W
27	740.3	30.3	25	35.6	13.1		11.6	SSW	2	N	5	WSW	11	SSW	5		0		0	Smoke high in air all day
28	742.2	17.5	66	22.7	13.6		3.4	SW	6	S	7	SW	8	S	4	St; Cu	7-10	St; Cu	7-10	Drizzle in evening
29	744.0	18.5	65	27.8	7.8	T	12.0	SSW	4	ESE	4	SE	2	S	9	Ci; CiSt	1- 3	Ci; CiSt; FrCu	4- 6	Fires in NW
30	743.0	24.3	39	32.9	10.2		12.1	S	4	...	..	SSW	3	S	6	Ci; CiSt	1- 3	Ci; CiSt	4- 6	Clearing in evening
31	743.9	22.0	32	31.6	10.0		11.4	SSE	3	SE	4	S	5	S	6	CiSt	4- 6	CiSt; CiCu	4- 6	Dew early
SUM						1.49														
MEAN	740.4	18.4	57	24.0	9.3		7.4		3.6		8.4		11.3		5.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.85 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 139

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		135	152	140	129	131	141	142	142	153	142	140	141	148	144	144	144	144	149	154	163	170	182	165	167	148	1
2	✓			173	153	178	181	179	169	170	173	157	162	154	157	157	156	166	167	166	170	181	196	208	235	272	291	182	0
3	✓			308	308	324	346	333	365	401	390	291	192	170	154	141	138	141	115	87	102	129	90	127	133	134	129	210	2
4	✓			138	138	144	149	148	144	144	149	138	145	141	142	146	142	141	153	153	150	157	167	169	178	171	178	151	1
5	✓	✓	✓	181	183	182	178	179	190	185	183	183	194	181	178	177	(169	165)	166	169	175	173	181	186	195	203	222	182	0
6	✓	✓	✓	252	222	272	285	185	283	306	272	216	208	183	178	178	170	166	165	166	144	152	171	190	206	210	208	208	0
7	✓	✓	✓	207	221	227	217	202	178	217	257	243	233	208	203	189	182	181	177	170	179	192	204	244	235	251	275	212	0
8	✓			297	333	359	378	326	323	207	222	194	161	152	131	134	112	115	113	118	113	115	126	124	104	120	113	187	2
9	✓	✓		127	133	129	142	154	154	156	153	153	153	149	158	165	158	153	148	153	154	158	165	181	186	194	191	157	1
10	✓	✓	✓	179	167	173	181	167	177	178	183	177	178	181	173	166	166	163	167	166	165	170	166	166	166	166	178	172	0
11	✓	✓	✓	191	185	191	183	167	161	186	196	183	178	171	169	153	127	138	157	174	175	192	124	153	174	167	174	170	0
12	✓			177	182	167	165	165	93	72	142	189	192	177	165	167	(161)	154	165	162	161	165	159	165	169	171	179	161	0
13	✓	✓	✓	183	194	204	208	217	238	226	210	167	166	169	167	127	129	144	171	161	141	122	116	112	127	141	144	166	0
14	✓	✓	✓	135	129	141	131	135	131	138	163	204	202	194	196	202	203	194	195	195	196	194	154	170	177	175	156	171	0
15	✓	✓	✓	141	156	166	191	245	292	307	317	239	204	167	142	142	149	142	129	113	118	82	119	98	123	167	183	172	0
16	✓	✓		191	202	204	211	196	170	153	156	140	138	141	141	142	140	142	138	138	141	142	148	153	165	169	173	160	0
17	✓	✓		173	154	159	189	169	191	181	144	144	148	153	152	148	154	153	156	153	144	145	156	167	177	182	194	162	0
18	✓			217	129	199	254	183	252	318	267	210	154	138	126	119	115	115	119	123	142	119	123	138	145	150	165	168	1
19	✓	✓	✓	171	177	181	191	208	219	221	233	183	166	166	156	163	(158	150)	150	156	159	162	175	192	216	248	258	186	0
20	✓	✓	✓	271	296	322	359	370	345	342	338	303	256	199	177	167	154	150	150	150	153	159	167	173	166	169	165	229	0
21	✓			161	154	152	148	141	109	152	142	146	154	127	130	129	123	124	126	105	122	102	144	140	141	153	152	137	2
22	✓	✓		163	165	167	167	183	216	229	182	154	144	141	142	142	140	138	138	137	141	137	138	130	134	131	129	154	1
23	✓	✓		127	127	141	145	152	153	158	154	156	159	158	156	167	166	169	167	165	166	173	166	178	181	181	186	160	0
24	✓	✓	✓	181	182	191	179	181	191	194	170	182	165	165	156	157	157	157	154	159	162	156	156	165	171	185	181	171	0
25	✓	✓		185	199	195	191	169	196	221	219	196	177	157	153	140	122	122	112	95	91	141	153	98	89	83	78	149	0
26	✓	✓		82	89	111	137	181	219	270	275	265	239	231	213	207	(192)	181	189	186	182	191	192	187	196	156	118	187	0
27	✓	✓		112	129	152	154	158	182	268	307	266	207	185	156	63	131	158	154	137	113	89	115	124	122	133	126	156	1
28				127	—	—	—	—	—	—	—	—	—	—	144	153	158	167	166	156	138	130	153	150	153	157	156		0
29	✓	✓	✓	159	154	150	154	154	158	157	162	199	192	194	191	191	196	206	202	183	158	131	127	130	141	145	137	165	0
30	✓			135	138	127	126	137	156	199	262	306	312	285	243	196	126	167	171	182	169	165	126	127	129	130	129	177	0
31				138	—	—	—	—	—	—	—	181	194	202	187	169	163	158	144	135	131	138	138	126	131	137	153		0
MEANS * 29 DAYS				178	178	188	195	190	200	210	213	198	183	172	164	156	151	153	154	151	149	150	151	157	164	170	172	173	
MEANS † 21 DAYS				169	172	181	187	186	199	211	210	196	183	173	167	159	157	158	159	156	153	153	155	160	168	172	173	173	
MEANS ‡ 12 DAYS				188	189	200	205	201	214	221	224	207	195	182	174	168	163	163	165	164	160	157	155	165	175	186	190	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 140

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		122	112	108	111	107	119	119	120	124	114	123	123	124	124	120	123	122	115	122	117	120	125	122	115	119	1
2	✓			122	115	117	130	132	124	135	146	131	136	137	137	138	141	141	147	142	126	122	123	136	166	203	238	141	0
3	✓			294	287	289	324	304	348	409	397	302	184	149	126	109	95	91	112	172	125	107	137	94	90	87	100	197	2
4	✓			97	104	107	108	108	102	111	117	112	112	122	117	112	122	114	122	120	122	120	112	109	104	111	101	112	1
5	✓	✓	✓	111	112	120	101	108	136	136	138	146	150	160	159	148	(160)	150	146	136	136	124	113	122	125	140	137	134	0
6	✓	✓	✓	153	182	210	243	149	210	211	221	162	161	160	160	168	160	150	148	129	113	94	113	126	123	140	131	159	0
7	✓	✓	✓	140	159	149	150	162	149	159	234	228	222	198	186	183	174	172	170	168	171	147	162	167	172	228	268	180	0
8	✓			301	311	363	362	324	290	179	211	172	137	114	87	89	83	90	114	91	107	90	100	98	122	98	89	168	2
9	✓	✓		96	98	97	100	111	113	109	120	122	124	125	134	135	135	126	122	120	124	113	109	123	148	147	144	121	1
10	✓	✓	✓	130	122	108	113	115	112	132	136	136	148	156	159	155	150	137	141	132	126	120	112	98	95	108	126	128	0
11	✓	✓	✓	130	115	124	111	97	86	125	178	178	172	167	159	142	115	128	141	150	144	136	95	113	131	122	129	133	0
12	✓			125	119	103	109	101	45	35	92	158	160	149	142	150	156	(140)	136	125	124	129	115	123	114	119	132	121	0
13	✓	✓	✓	114	119	123	140	141	154	164	186	153	144	148	142	112	111	124	148	146	122	91	92	87	101	101	101	128	0
14	✓	✓	✓	98	76	75	84	84	90	95	137	190	184	184	184	186	184	172	168	150	150	138	114	123	128	135	112	135	0
15	✓	✓	✓	107	113	113	126	235	298	294	309	242	193	153	134	126	136	134	112	103	95	60	84	67	89	129	147	150	0
16	✓	✓		148	152	159	159	158	138	123	131	123	123	126	131	136	124	125	123	115	113	109	111	107	115	125	126	129	0
17	✓	✓		123	111	120	114	113	149	118	111	114	126	135	137	136	135	132	135	124	123	118	122	126	138	147	146	127	0
18	✓			173	107	176	218	171	243	291	254	198	146	113	102	100	85	83	86	115	112	90	90	102	98	101	102	140	1
19	✓	✓	✓	119	117	124	136	164	184	174	205	158	146	149	149	152	(138)	134	126	126	130	115	118	138	162	197	248	150	0
20	✓	✓	✓	256	276	308	326	360	326	328	324	294	255	195	171	159	142	134	126	135	129	131	137	148	146	137	135	212	0
21	✓			134	135	124	128	134	140	124	134	126	123	122	102	109	76	85	86	98	115	159	135	146	112	109	103	119	2
22	✓	✓		100	96	100	98	125	168	185	161	143	124	125	134	130	114	112	102	108	113	113	117	107	114	111	98	121	1
23	✓	✓		95	85	97	86	98	111	114	122	132	137	137	137	144	138	138	136	135	131	137	124	135	124	126	124	123	0
24	✓	✓	✓	119	131	122	108	113	132	138	143	153	136	135	136	143	140	135	137	134	129	115	113	124	124	131	134	130	0
25	✓	✓		143	147	146	144	122	149	177	206	193	170	149	136	125	111	107	97	80	73	101	122	63	60	49	48	122	0
26	✓	✓		58	62	74	102	152	205	242	289	265	251	237	212	206	197	(195)	176	166	161	158	162	150	161	128	94	171	0
27	✓	✓		85	98	113	124	136	166	229	294	274	212	180	146	53	123	146	140	118	90	72	96	90	89	65	87	134	1
28				97	100	97	97	104	98	109	112	112	118	117	124	123	138	146	143	136	108	98	113	100	107	86	100		0
29	✓	✓	✓	108	97	87	87	111	114	123	144	180	183	183	178	173	183	185	188	161	140	112	109	102	112	111	102	136	0
30	✓			92	92	86	85	83	101	170	255	317	306	277	235	180	107	149	161	166	156	149	102	108	97	90	76	152	0
31				79	63	55	48	53	44	89	138	173	186	197	183	158	150	148	126	122	123	124	117	109	102	112	112		0
MEANS * 29 DAYS				134	133	139	146	149	162	171	190	180	165	155	147	139	133	133	133	131	125	117	116	116	120	125	127	141	
MEANS † 21 DAYS				122	123	127	132	141	158	166	186	177	165	158	153	145	143	141	138	131	125	116	116	116	123	129	131	140	
MEANS ‡ 12 DAYS				132	135	139	144	153	166	173	196	185	174	166	160	154	149	146	146	139	132	115	114	118	126	140	148	148	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 141

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				N102	Z	Z	123	233	219	118	90	85	90	85	81	85	94	81	81	85	85	90	102	102	106	118	110		1
2	✓	✓	✓	123	90	63	110	115	90	59	59	59	61	63	83	83	83	92	90	88	117	96	94	110	110	106	115	90	0
3	✓	✓		106	110	106	110	110	83	83	72	71	63	68	77	79	85	96	94	102	110	106	110	131	143	163	187	103	0
4	✓	✓		179	171	131	85	72	63	63	63	63	68	68	72	72	72	81	85	85	77	68	68	40	66	94	82	83	0
5				85	Z	Z	Z	Z	Z	N 72	85	85	77	77	90	102	98	98	102	102	94	101	102	Z	Z	N 79	Z		2
6				Z	Z	Z	Z	Z	Z	Z	N118	Z	Z	Z	55	Z	Z	Z	72	Z	N 90	59	—	—	—	—	—		2
7				—	—	—	—	—	—	—	—	123	N 77	98	108	Z	118	113	115	108	110	106	106	—	—	—	—		1
8				—	—	—	—	—	—	88	101	90	90	98	98	115	118	106	104	94	96	110	117	123	125	118	115		0
9	✓	✓	✓	123	118	117	106	117	110	101	101	74	85	85	85	90	104	115	104	92	94	101	110	110	127	139	151	107	0
10	✓	✓	✓	163	175	171	163	159	118	85	63	55	55	59	63	68	68	81	68	50	32	70	70	66	88	123	135	94	0
11	✓	✓	✓	139	148	143	135	127	106	127	127	131	115	123	131	127	115	118	110	118	123	123	131	123	118	127	135	126	0
12	✓	✓	✓	148	135	135	127	127	118	110	115	98	90	98	101	96	123	127	135	137	137	143	129	127	117	118	137	122	0
13	✓	✓		165	185	185	182	153	104	77	68	63	68	77	77	77	81	85	85	81	85	90	88	106	106	102	127	105	0
14	✓	✓	✓	123	118	101	70	61	50	46	55	68	81	81	83	79	85	98	77	81	72	72	74	77	68	68	72	78	0
15				72	92	90	Z	79	68	70	53	59	55	50	50	N 46	N 19	Z	Z	Z	N 4	Z	Z	Z	Z	Z	Z		2
16	✓	✓	✓	108	106	127	77	90	83	85	83	85	85	83	79	81	88	90	81	83	88	88	85	79	81	79	81	87	0
17				104	101	94	110	131	94	108	Z	Z	Z	85	74	85	94	Z	Z	102	159	85	77	74	63	61	74		1
18				68	66	63	55	55	57	N 40	Z	66	53	50	N 40	N 21	74	Z	83	Z	Z	Z	Z	151	120	135	150		2
19				139	123	148	123	98	90	98	85	N 59	Z	N 61	77	68	74	98	70	N 70	81	74	74	88	77	90	94		1
20	✓	✓	✓	94	108	102	90	79	68	88	90	94	77	85	81	81	92	88	92	88	96	98	98	98	104	94	94	91	0
21	✓	✓	✓	85	77	61	63	50	59	63	72	81	85	79	79	98	115	131	139	120	106	110	120	117	104	102	115	93	0
22	✓	✓	✓	129	148	155	159	141	123	85	63	63	70	77	85	94	90	90	90	96	106	98	102	106	106	106	102	104	0
23	✓	✓	✓	94	85	72	72	72	63	63	63	63	59	63	68	72	74	79	77	81	88	88	77	72	63	55	57	72	0
24				57	74	79	63	53	63	57	55	59	59	72	77	77	90	Z	Z	Z	Z	Z	Z	Z	Z	102	141		2
25				N 63	Z	94	101	94	81	74	72	68	77	77	85	90	90	102	106	110	106	127	115	129	127	88	74		1
26	✓	✓		85	85	94	85	81	72	81	N 68	85	63	68	68	81	94	90	94	85	85	102	N 72	N 68	57	79	92	81	1
27	✓	✓		83	118	127	155	179	123	115	98	110	106	110	118	110	115	123	118	118	106	106	102	118	123	123	123	118	0
28	✓	✓	✓	118	110	110	127	104	88	81	92	94	96	104	102	102	117	120	102	101	94	110	115	113	115	115	118	106	0
29	✓	✓		125	135	139	129	120	108	101	79	77	74	70	74	79	83	88	92	94	98	113	118	127	123	148	155	106	0
30	✓	✓		159	159	195	195	163	150	108	98	102	102	90	98	101	110	102	101	108	118	123	127	135	131	143	143	128	0
31																													
MEANS * 19 DAYS				124	125	123	118	112	94	85	80	81	79	82	85	88	94	100	97	95	96	100	99	101	103	110	117	100	
MEANS † 19 DAYS				124	125	123	118	112	94	85	80	81	79	82	85	88	94	100	97	95	96	100	99	101	103	110	117	100	
MEANS ‡ 12 DAYS				121	118	113	108	104	90	83	82	80	80	83	87	89	96	102	97	94	96	100	100	100	100	103	109	97	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 142

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1926

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.2	20.1	74	26.1	15.1		4.8	S	3	S	3	SW	8	SW	5	StCu	4- 6	StCu	4- 6	Fog early
2	743.3	18.6	77	26.7	15.5		7.5	SSW	2	SSW	1	SW	8	SSW	2	Cu; FrCu	4- 6	Cu; FrCu	1- 3	Dew early
3	744.9	19.6	52	28.9	8.9		12.4	S	5	ESE	6	ENE	1	S	3		0		0	
4	744.3	27.0	31	35.0	11.0		8.9	SE	1	NE	9	NE	1	N	2		0	CiCu; CiSt; ACu	7-10	Overcast at night; rain in night
5	735.6	33.9	22	35.1	24.7	T	9.0	NW	3	N	12	W	13	SSW	3	CiCu; CiSt; ACu	7- 8	CiCu; CiSt; ACu	7- 8	Smoke from NW at 13h
6	736.5	19.8	70	20.6	16.8	0.05	0.9	..	0	NW	8	WSW	9	WNW	4	CiCu; ACu; Cu	9-10	CiCu; ACu; Cu	9-10	Light rain in am; heavier in pm and evening
7	741.4	16.0	63	18.7	9.7	0.25	6.6	NNW	1	SSW	17	SW	12	SW	2	ACu; Cu; Nb	7-10	ACu; Cu; Nb	4- 6	Rain in early hours and during am
8	746.3	16.3	62	22.8	6.8	0.02	6.8	SW	2	SSW	3	SW	6	SSW	6	St	7-10	St; FrCu	4- 6	
9	746.6	18.5	62	25.6	10.9		8.7	S	3	SSE	7	SSE	4	S	6	St; Cu	7-10	St; Cu	1- 3	
10	741.6	26.5	30	35.6	9.5		11.7	S	2	ENE	5	WNW	6	SSW	3	CiSt	1- 3	CiSt	1- 3	Large fires in NW
11	737.8	18.8	58	23.3	13.3		10.6	..	0	SSW	10	SW	13	SW	4	Ci; CiSt	4- 6	FrCu	4- 6	Dew early
12	743.9	16.0	58	22.1	8.5		9.5	SW	1	S	10	S	12	S	8	Cu	9-10	Cu	1- 3	
13	745.4	20.5	37	29.0	8.2		12.5	S	4	E	10	ESE	8	SSE	5		0		0	
14	741.5	28.5	22	38.3	11.4		11.6	SSE	4	NE	9	NNW	1	SW	3	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	Overcast at night with ACu
15	739.0	25.0	41	28.4	7.7		2.1	WNW	3	WNW	10	W	10	W	2	CiCu; ACu; ASt	7-10	CiCu; ACu; ASt	7-10	Few drops rain
16	741.4	21.4	52	31.9	13.3		12.2	..	0	ESE	16	E	6	ESE	15	FrCu	1- 3	FrCu	1- 3	Thunder and lightning in E in evening
17	740.0	23.5	55	31.7	17.5		9.7	E	9	NE	18	ENE	11	NE	2	Cu; FrCu; CuNb	4- 6	Cu; FrCu; CuNb	4- 6	Thunder all day; lightning in N and E
18	735.9	23.6	62	26.4	13.8	0.01	0.6	..	0	NNW	8	W	8	..	0	ACu; ASt	7-10	ACu; ASt	7-10	Thunder and lightning very near; clearing at night
19	734.4	17.0	90	20.6	14.6	0.91	4.8	NNW	7	W	16	W	14	WSW	3	Cu; Nb	7-10	Cu; Nb	7-10	Frequent fine showers
20	741.3	18.8	51	23.4	10.4	0.04	9.4	WSW	1	SSW	1	WSW	4	SSW	5	FrCu	4- 6	FrCu	4- 6	Clear at night
21	744.3	17.7	65	25.3	10.0	T	8.0	SSW	6	SE	8	SSE	4	S	8	Cu; St	10- 5	Cu; St	5- 1	
22	744.2	22.2	48	29.5	11.1		12.6	S	6	ESE	9	ESE	13	SSE	6		0		0	
23	741.9	26.2	34	34.6	17.5		9.3	ESE	12	E	11	ENE	9	SE	3	Ci; CiSt; CiCu	4- 6	Ci; CiSt; CiCu	4- 6	Lightning in NW in evening
24	738.5	30.1	34	36.1	19.1		9.0	E	6	NE	10	ENE	1	SE	11		0	CuNb; Nb	7-10	Heavy rains in pm and evening
25	735.5	25.3	64	28.4	18.0	0.33	12.2	E	1	N	9	WNW	13	WNW	1	CiSt; FrCu	1- 3	CiSt; FrCu	4- 6	Thunder and lightning very early
26	738.4	21.0	69	23.4	17.4	0.01	1.0	..	0	WNW	9	W	12	WNW	4	Cu; Nb	9-10	Cu; Nb	9-10	A few fine showers
27	741.6	18.8	57	23.2	14.4	0.01	9.4	WNW	6	SW	8	SW	9	SSW	4	Cu; FrCu	7-10	Cu; FrCu	4- 6	
28	744.6	17.6	45	25.6	8.3		12.8	SSE	2	SSE	5	S	2	S	7		0		0	Dew early
29	742.1	21.1	45	29.1	10.6		13.0	S	6	S	7	S	8	S	8	CiSt	10	CiSt	10	
30	742.3	22.5	53	31.6	13.0		12.9	S	2	SE	6	S	4	SSW	6		0		0	Dew early
31																				
SUM						1.63														
MEAN	741.3	21.7	53	27.9	12.9		8.7		3.3		8.7		7.7		4.7					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 143

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[131	92	117	136	133]	(141	149	158	166)	174	181	183	175	171	170	168	164	171	182	175	178	171	178	179	160	1
2	✓	✓	✓	181	175	175	179	177	171	178	166	170	185	185	178	160	158	151	147	141	88	144	158	167	166	163	174	164	0
3	✓	✓		173	179	158	154	155	162	174	217	232	250	227	213	185	145	141	145	140	[117	141	136	127	126	117	102]	163	0
4	✓	✓		[105	117	168]	249	274	308	337	311	265	235	212	194	181	163	151	152	156	163	179	≷185	197	186	175	196≶	202	0
5	✓			≷204	185	102	82	186	215≶	220	186	192	185	168	[131	88	65	116]	144	154	158	145	144≷	105	129	154	143≶	150	2
6	✓			≷106	102	140	145	148	159	156≶	162	≷141	108≶	130	129	≷126	134	133≶	143	≷138≶	140	137	147	129	130	130	129	135	2
7	✓			136	158	160	144	≷130	130≶	145	140	140	130	129	131	140	138	143	140	144	145	147	156	164	175	181	183	147	1
8	✓			190	188	196	198	212	227	218	188	170	178	170	173	170	159	160	158	152	160	158	158	154	158	160	170	176	0
9	✓	✓	✓	167	158	163	162	162	160	167	164	152	168	167	158	134	(102)	80	109	127	141	144	148	144	131	127	123	144	0
10	✓	✓	✓	127	127	130	131	126	145	211	301	346	327	315	281	241	204	188	[130]	171	188	200	207	225	205	159	144	201	0
11	✓	✓	✓	133	133	131	145	162	162	140	143	149	158	156	147	147	147	155	151	148	144	144	138	141	152	171	175	149	0
12	✓	✓	✓	168	182	182	197	197	185	186	173	167	163	160	164	[133	78	84	92	92	102	88]	126	141	154	149	144	146	0
13	✓	✓		[130	127	124	127	143]	186	237	269	289	265	240	223	220	213	209	209	211	202	198	202	200	198	212	200	201	0
14	✓	✓	✓	196	197	230	299	333	364	381	323	227	201	194	182	183	182	171	164	152	138	147	174	177	212	222	230	220	0
15	✓			226	209	227	≷232≶	211	202	204	212	194	173	170	171	170	168	≷131	122	144	144	134	156	136	116	123	88≶	169	2
16	✓	✓	✓	148	156	145	182	189	201	207	198	189	185	183	174	173	(155)	147	151	141	124	131	145	160	175	185	175	167	0
17	✓			174	189	205	274	295	254	230	174	(173	173	173	173)	171	174	154	≷73≶	171	177	189	198	213	228	231	223	195	1
18				231	235	225	246	263	275	211	≷173≶	173	171	174	181	179	181	≷155≶	158	—	—	≷89	177≶	158	158	123	126		2
19	✓			155	168	164	170	166	162	158	152	151	148	154	149	149	155	155	160	171	173	167	171	162	160	170	171	161	1
20	✓	✓	✓	179	186	202	211	223	227	194	170	177	166	160	160	156	152	149	151	155	156	159	160	158	166	177	190	174	0
21	✓	✓	✓	198	217	227	240	260	250	238	188	174	167	171	173	162	134	108	101	147	170	158	131	130	143	144	134	174	0
22	✓	✓	✓	131	134	130	130	138	154	196	240	240	222	197	177	159	154	148	151	156	149	148	152	158	162	173	182	166	0
23	✓	✓	✓	207	240	270	250	240	237	249	254	241	225	208	200	196	(171)	158	158	160	160	170	171	179	207	237	264	210	0
24	✓			280	259	230	267	306	289	272	246	211	194	182	177	168	159	≷54	63	185	145	119	124	89	133≶	155	156	186	2
25	✓			(173	186)	215	213	235	227	217	196	190	174	171	160	154	145	144	141	143	141	159	154	158	160	190	167	176	1
26	✓	✓		170	185	178	174	197	204	183	173	178	171	174	175	179	173	168	162	168	159	158	156	159	170	182	183	174	1
27	✓	✓		174	156	147	158	159	170	173	149	145	144	138	138	136	141	131	133	140	145	143	151	155	156	170	174	151	0
28	✓	✓	✓	182	186	182	162	182	208	223	200	171	170	155	154	147	151	147	158	160	151	122	116	143	156	151	145	163	0
29	✓	✓		140	141	144	156	160	171	181	201	215	215	188	183	177	168	158	158	162	144	144	143	145	134	[120	129]	162	0
30	✓	✓		[116	115	117	119	133	134]	171	175	178	173	159	158	158	(158	156)	160	145	130	129	127	131	133	130	120	143	0
31																													
MEANS * 29 DAYS				166	167	171	182	194	200	207	201	194	187	180	173	163	152	143	141	153	149	151	155	156	162	167	165	170	
MEANS † 19 DAYS				159	164	169	180	190	200	212	211	206	199	189	181	170	155	147	146	151	146	150	154	160	165	167	168	172	
MEANS ‡ 12 DAYS				168	174	181	191	199	205	214	210	200	195	188	179	166	149	140	139	146	143	146	152	160	169	172	173	173	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 144

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[118	53	106	102	87	108	116	140]	153	153	166	175	166	155	158	150	147	150	155	140	136	137	124	128	134	1
2	✓	✓	✓	126	140	136	121	132	144	163	160	153	164	179	176	166	151	151	137	136	79	122	132	122	124	132	120	140	0
3	✓	✓		133	108	124	120	97	130	159	223	247	262	266	232	189	146	137	140	133	[106	112	113	106	99	93	71]	148	0
4	✓	✓		[79	79	113]	210	249	292	319	320	276	240	222	203	179	163	155	150	146	146	159	{163	182	169	151	177}	189	0
5	✓			{196	196	153	153	137	140}	223	177	202	193	176	[134	93	66	112]	138	145	134	121	113	{132	105	110	110}	144	2
6	✓			{114	177	159	134	145	132	129	134	144	137	126}	121	{130	108	110}	134	{120}	120	118	(130	90	91	91)	90	124	2
7	✓			86	109	113	110	{140	130}	124	122	125	112	116	120	108	121	130	132	133	124	121	113	109	126	134	138	121	1
8	✓			149	147	141	140	149	153	168	155	149	145	146	150	158	162	155	150	146	140	126	120	117	121	133	137	144	0
9	✓	✓	✓	120	121	110	116	124	132	140	142	150	153	171	176	144	105	(90	109)	125	136	126	120	120	113	108	95	127	0
10	✓	✓	✓	85	70	83	93	97	125	207	314	372	361	348	303	260	222	201	[133]	184	198	189	189	199	181	138	120	195	0
11	✓	✓	✓	112	87	82	101	113	118	126	126	130	140	141	137	134	136	140	137	126	122	116	99	99	93	97	97	117	0
12	✓	✓	✓	91	113	108	126	129	129	159	154	153	150	150	160	[134	83	81	85	79	93	77]	108	121	129	126	112	119	0
13	✓	✓		[98	83	79	81	99]	154	237	300	322	308	267	250	251	239	232	230	228	215	197	163	153	164	189	167	196	0
14	✓	✓	✓	158	167	206	270	326	374	412	361	250	205	197	189	196	180	171	167	154	146	147	159	163	189	202	211	217	0
15	✓			205	186	218	{233}	215	205	213	(217	196)	175	167	172	179	180	{173	150	151	159	136	118	137	112	116	122}	172	2
16	✓	✓	✓	110	108	83	134	185	205	217	216	212	199	201	184	182	159	147	150	145	128	136	150	172	176	182	176	165	0
17	✓			166	176	196	249	246	242	220	{122	114	149}	175	164	171	166	162	{237}	164	153	163	162	172	177	185	169	179	1
18				176	206	216	225	231	247	194	{105}	169	159	171	176	179	166	169	137	——	——	——	154	98	85	81	94		2
19	✓			121	140	138	137	140	150	150	145	141	146	141	138	140	137	137	149	153	147	137	136	125	129	125	124	139	1
20	✓	✓	✓	125	122	137	151	176	213	166	146	144	149	151	158	146	140	140	138	137	133	124	122	129	120	124	137	143	0
21	✓	✓	✓	153	160	197	196	202	213	223	185	171	163	162	173	164	130	97	98	134	154	137	117	110	132	136	122	155	0
22	✓	✓	✓	113	106	97	91	95	109	186	264	269	250	213	186	168	163	154	150	153	149	137	137	138	144	155	159	158	0
23	✓	✓	✓	171	227	281	255	242	244	254	256	250	244	228	215	201	194	(171)	162	163	163	163	153	150	176	207	245	209	0
24	✓			260	244	222	251	282	251	256	251	220	202	199	193	177	160	{176	167	66	140	110	75	168	138}	145	116	186	2
25	✓			(154	160)	175	163	154	162	177	179	186	166	164	151	147	141	137	133	126	132	128	128	120	116	134	134	149	1
26	✓	✓		130	138	137	149	168	179	176	175	176	164	168	177	176	160	147	144	149	137	129	138	142	156	163	160	156	1
27	✓	✓		156	138	121	114	99	117	132	128	125	122	126	122	134	132	120	113	122	122	118	108	113	114	121	122	122	0
28	✓	✓	✓	133	141	134	118	140	160	210	202	166	156	147	146	140	138	137	141	141	134	108	106	130	136	133	128	143	0
29	✓	✓		121	122	124	126	128	137	163	206	226	211	201	186	177	173	163	160	140	144	133	128	122	122	[109	87]	150	0
30	✓	✓		[85	81	69	85	91	105]	150	168	171	160	158	158	159	150	160	162	141	121	120	110	110	118	102	99	126	0
31																													
MEANS * 29 DAYS				133	134	139	149	158	171	192	196	193	185	182	174	164	150	146	146	141	139	133	129	134	135	137	134	154	
MEANS † 19 DAYS				121	122	127	140	152	173	200	213	209	200	195	186	174	156	147	143	144	138	134	132	136	140	140	137	157	
MEANS ‡ 12 DAYS				125	130	138	148	163	180	205	210	202	194	191	184	170	150	140	134	140	136	132	133	138	143	145	144	157	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 145

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				142	151	151	[191	179	Z+	Z+]	118	94	109	94	90	96	109	101	105	109	114	118	121	121	109	142	147		0
2	✓	✓	✓	155	184	159	135	130	120	120	96	92	96	96	98	109	114	107	114	105	105	109	103	105	103	101	105	115	0
3	✓			118	130	121	114	112	109	109	105	94	94	94	105	101	103	103	103	116	109	112	121	124	124	121	128	111	0
4	✓	✓	✓	128	124	109	130	137	135	112	94	88	83	79	70	85	88	114	128	120	109	112	105	88	92	112	124	107	0
5	✓	✓		[109	63	63	48	39	53]	79	66	74	74	88	92	105	96	88	90	92	90	88	96	[118	153	170	167]	92	0
6	✓	✓	✓	[144	112]	85	74	70	72	66	68	66	70	72	74	85	88	88	90	96	101	109	105	116	112	109	109	91	0
7	✓	✓	✓	118	109	96	74	70	57	53	57	70	74	83	96	101	109	109	105	96	48	70	68	94	98	88	88	85	0
8	✓	✓		88	92	92	101	88	68	63	79	70	68	81	79	[94	109	101	116	101	118	114	120	135	139	175	203]	104	0
9				[121	151]	—	—	—	—	—	83	81	81	81	81	72	72	92	83	94	92	98	98	105	107	114	94		0
10	✓			70	70	88	83	79	74	88	88	70	68	74	79	79	70	83	83	79	92	[109	121	159	142	139	151]	93	0
11				[159	151	130	101]	79	70	61	61	63	57	63	66	68	79	79	74	74	74	79	N 46	Z	Z	N 39	Z		1
12				N 9	53	53	N 35	N 33	37	50	33	42	68	68	66	77	68	105	Z	Z	Z	Z	79	94	94	85	90		2
13	✓			92	85	90	79	72	88	70	66	53	66	70	79	88	92	92	88	92	96	83	74	79	88	79	83	81	0
14	✓			79	83	88	85	83	72	63	61	59	59	63	59	68	72	83	88	88	101	96	90	112	9	137	107	83	0
15	✓			130	144	128	141	142	126	121	101	92	101	83	79	88	85	98	109	124	120	112	118	121	135	39	151	116	0
16	✓			159	167	142	114	103	90	90	88	88	88	85	90	92	90	85	92	101	112	107	112	[135	149	151	158]	112	0
17	✓			[141	107]	101	96	81	72	66	61	63	63	59	72	79	88	81	92	90	92	85	90	92	121	130	118	89	0
18	✓			139	147	101	92	66	57	50	59	74	72	74	74	70	66	74	74	68	68	79	57	66	109	121	135	83	0
19	✓			109	105	109	88	70	57	57	66	70	72	74	70	72	83	83	83	74	83	83	88	88	94	103	116	83	0
20	✓			120	120	139	124	107	118	107	98	92	79	74	79	88	92	92	92	103	105	120	126	126	126	124	137	108	0
21	✓			153	149	149	126	112	105	94	74	61	61	61	66	66	70	79	79	88	83	96	105	105	96	101	92	95	0
22				88	79	79	70	70	53	48	57	57	61	Z	Z	Z	39	Z	Z	Z	N 37	Z	Z	94	Z	Z	92		2
23				96	Z	Z	Z	88	139	130	114	109	109	101	109	105	114	109	109	118	109	139	137	[155	165	195	219]		1
24	✓	✓		[161	182	203	179]	121	114	114	103	103	92	92	88	101	101	96	88	88	94	101	107	107	98	90	83	113	0
25	✓	✓	✓	121	126	132	126	109	101	96	88	79	79	88	83	81	79	83	83	88	79	79	68	63	59	59	61	88	0
26	✓	✓	✓	61	61	61	48	44	42	46	48	50	61	63	59	68	66	68	63	68	57	57	46	44	53	48	44	55	0
27	✓	✓	✓	44	44	35	39	31	31	35	48	48	48	50	48	48	50	50	53	53	48	61	74	88	83	[109	142]	57	0
28				[144	163	139	121	94]	48	44	53	57	57	61	55	61	61	57	70	66	74	61	55	[96	249	Z+	Z+]		0
29				[Z+	Z+	194	132]	81	66	53	44	50	53	59	68	[90	92	101	114	85	85	96	103	121	155	151	96]		0
30	✓	✓	✓	[33	35	22]	61	70	57	53	53	50	48	48	44	53	66	68	72	63	68	74	70	70	79	68	70	58	0
31				79	74	70	66	66	66	66	57	57	48	48	57	57	61	61	57	57	53	66	66	66	61	83	Z		1
MEANS * 22 DAYS				112	111	105	98	88	83	80	76	73	73	75	76	83	85	88	90	91	90	93	94	102	107	112	117	92	
MEANS † 11 DAYS				106	103	96	92	83	77	76	73	72	72	76	76	85	88	88	91	88	83	89	87	93	97	103	109	88	
MEANS ‡ 8 DAYS				100	99	87	86	83	77	73	69	68	70	72	72	79	82	86	88	86	77	84	80	84	85	87	93	82	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 146

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1926

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h	08h–09h	14h–15h	20h–21h	FORENOON		AFTERNOON		
								DIR. VEL.	DIR. VEL.	DIR. VEL.	DIR. VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	739.6	23.9	56	29.1	12.0		12.3	S 3	SSW 2	SW 9	SSW 5		0		0	Fog early
2	740.0	21.2	56	27.8	15.9		11.2	S 6	S 7	SW 8	S 8	ASt; ACu	7- 8	ASt; ACu	1- 3	Cloudy in evening
3	740.9	19.2	50	27.0	12.5		12.5	S 3	SE 9	SSW 7	S 7	StCu	1- 3	StCu	1- 3	
4	742.0	18.8	47	25.3	9.6		12.7	SSE 2	SSE 16	S 11	S 10	StCu	1- 3	StCu	1- 3	
5	744.5	18.3	43	27.7	9.9		13.1	S 5	ESE 14	SE 10	S 6		0		0	
6	743.3	23.8	25	32.3	11.4		13.0	SE 6	ENE 12	E 4	SSE 5		0		0	
7	740.0	29.5	19	37.8	12.5		13.1	SSE 3	W 8	WSW 3	S 3		0		0	Fires in NW; smoke in upper air
8	735.3	31.2	21	37.9	14.8		12.6	.. 0	.. ..	W 15	WSW 1		0		0	Smoke from NW in pm
9	735.3	21.5	50	23.8	15.0		6.0	SW 3	WSW 9	WSW 12	SSW 5	CiCu; Cu	7-10	CiCu; Cu	7-10	Clear in evening
10	742.2	18.0	55	26.0	12.0		9.2	S 7	SE 11	ESE 5	S 11	StCu	7-10	StCu	1- 6	Smoky in evening
11	740.6	22.7	33	33.3	10.8		11.8	S 5	ESE 10	E 7	SE 5		0	ACu; CuNb	7-10	Thunder and lightning in evening
12	738.0	25.4	47	30.1	19.9		2.5	S 4	NE 1	ENE 4	ENE 10	StCu	10	StCu; NbSt	10	Thunderstorm in pm; clearing in evening
13	737.3	22.0	56	30.8	18.0	0.01	9.2	NE 10	NE 12	NE 5	ENE 4	Cu; StCu	7- 8	Cu; FrCu	6- 1	Light rain in very early hours
14	734.9	26.2	47	33.8	19.2		8.8	NE 6	NNE 7	SW 9	SSW 9	Cu; StCu	4- 6	FrCu	1- 3	Overcast in evening, with light rain
15	740.5	18.9	43	22.6	13.8	T	11.9	SSW 2	S 13	S 15	S 10	Ci; Cu; StCu	7-10	Ci; Cu; StCu	6- 1	Clear in evening
16	744.5	15.6	40	24.7	8.6		13.1	SSE 5	ESE 13	ESE 9	SSE 4	CiSt	10		0	
17	743.1	21.5	32	29.1	12.1		13.0	SE 5	E 8	SE 5	SSE 2	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
18	741.7	26.1	21	32.4	10.7		13.0	SSW 2	ENE 9	E 4	ESE 1		0	ACu	1- 3	Clear in evening
19	739.2	29.0	20	35.8	12.4		12.7	S 1	NE 10	E 2	S 7	CiSt	10		0	
20	737.1	27.8	28	34.8	12.3		12.8	S 2	SE 4	SSW 5	S 6		0		0	Hazy, probably with smoke
21	738.4	25.3	34	37.0	16.6		12.9	ESE 10	E 9	ESE 4	SE 4		0		0	
22	734.9	33.3	18	38.7	19.6		5.5	ESE 6	NE 13	SE 6	.. 0	Ci; CiSt	4- 6	ACu	7-10	Thunder in late am; lightning in SW in evening
23	733.4	28.7	47	35.1	20.0	T	11.7	NE 1	NNE 3	SW 10	SSW 11	ACu	6- 1		0	
24	740.0	21.8	39	31.1	15.5		13.2	S 7	SE 15	ESE 15	SE 10		0		0	
25	741.9	21.8	33	33.6	14.0		12.8	ESE 10	E 15	E 10	SSE 2		0	CiSt	4- 6	Lightning in E in evening
26	740.5	30.5	20	37.8	17.2		5.8	SE 1	ENE 3	E 1	.. 0	CiSt; CiCu	7- 8	CiCu; CuNb; St	7- 8	Threatening in pm and evening
27	739.6	30.8	16	38.6	18.3		10.8	.. 0	NNE 8	ESE 2	.. 0	Ci; CiCu; CiSt	4- 6	Ci; CiCu; CiSt	1- 3	
28	738.7	32.7	16	39.2	17.1		9.1	S 1	NE 10	.. 0	S 1	StCu	4- 8	StCu	8- 1	Smoke in air in evening
29	735.8	27.7	50	32.8	14.0		12.3	.. 0	N 4	WSW 12	.. 0	CiCu	1- 3		0	Smoky all day
30	739.0	23.2	50	31.3	15.8		12.8	SSE 3	ESE 13	SE 12	SE 13	CiCu; CiSt	4- 6	Ci; CiCu	1- 3	
31	740.8	23.0	46	34.8	14.8		12.6	ESE 13	E 11	ESE 7	SE 1	St; StCu	1- 3	St; StCu	1- 3	Hazy, probably with smoke; lightning in evening
SUM						0.01										
MEAN	739.5	24.5	37	32.0	14.4		11.1	4.3	9.3	7.4	5.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 147

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			121	130	129	120	121	[61	92]	143	146	147	157	158	142	129	131	131	133	134	146	153	157	150	130	130	133	0
2	✓	✓	✓	117	121	118	129	138	148	147	161	169	172	166	161	160	153	147	147	147	148	147	156	152	150	152	154	148	0
3				146	152	162	173	166	148	146	147	148	160	164	171	161	152	147	143	121	130	147	145	146	146	158	156		0
4	✓	✓	✓	158	168	178	161	150	162	172	171	161	160	150	157	160	135	87	71	74	92	114	124	152	148	145	131	141	0
5	✓	✓		130	130	134	140	164	187	201	207	201	192	178	171	148	135	146	147	146	143	146	152	[135	120	130	138]	155	0
6	✓	✓	✓	[162	201]	230	251	281	281	282	281	282	270	247	233	207	206	204	206	192	191	183	193	204	221	219	204	226	0
7	✓	✓	✓	201	203	222	284	314	345	370	344	285	249	192	164	156	(135)	137	150	135	145	154	175	189	187	203	217	215	0
8	✓	✓		227	218	215	207	237	294	267	216	215	229	196	171	[134	102	116	110	133	133	131	140	148	142	110	95]	174	0
9				[83	101	106]	133	150	158	164	148	150	143	138	142	146	150	145	145	147	147	153	160	166	161	154	164		0
10				147	142	145	154	166	183	186	179	181	181	171	160	148	143	143	137	131	131	123	[110	97	104	110	104]		0
11				[110	116	135	178]	237	249	249	242	249	247	241	231	222	211	202	182	166	164	172	172	84	138	167	161		1
12				167	219	243	233	231	243	254	274	294	203	173	171	168	168	166	48	175	135	202	213	201	207	218	216		2
13				207	206	210	204	208	206	202	196	186	189	182	187	189	187	181	186	186	179	183	198	203	213	215	203		0
14				203	204	216	221	218	221	215	215	208	215	—	—	172	(173	169)	167	164	147	138	138	137	142	134	134		0
15				138	143	140	134	135	137	143	146	150	143	147	145	138	(120	102)	99	92	101	106	112	120	124	120	111		0
16				118	133	157	183	185	191	189	186	197	189	186	166	162	160	148	145	143	133	129	134	[133	110	114	121]		0
17				[147	215]	241	241	252	255	271	284	276	261	242	217	201	[175	107	110	98	147]	166	175	192	162	145	137		0
18				138	143	152	173	234	293	338	281	213	178	181	178	173	175	175	172	166	147	164	189	202	147	133	121		0
19				135	147	161	201	242	281	293	257	189	177	172	166	164	161	160	150	147	138	140	162	177	168	148	130		0
20				129	124	125	143	160	161	147	146	138	146	160	153	133	125	120	121	121	123	128	133	134	140	135	111		0
21				101	118	130	134	152	162	191	208	230	241	229	217	193	(186	172)	182	173	173	168	171	164	175	196	206		0
22	✓			217	216	240	259	287	287	298	281	222	191	153	41	172	229	203	160	177	158	104	130	181	120	114	219	194	2
23	✓			227	179	130	269	269	160	150	166	169	169	158	148	138	130	145	134	131	133	128	110	[98	92	75	61]	149	1
24	✓	✓		[92	102	102	130]	164	166	167	169	154	160	150	150	147	147	145	140	134	133	134	145	148	156	161	161	144	0
25	✓	✓	✓	158	158	152	154	173	182	182	173	147	135	116	117	143	160	167	172	166	178	177	187	193	215	228	254	170	0
26	✓	✓	✓	292	320	321	319	315	334	341	300	249	216	201	202	187	178	178	178	178	171	161	191	215	219	230	265	240	0
27	✓	✓	✓	296	316	346	370	370	366	360	271	228	191	187	189	182	173	169	166	160	152	146	131	129	145	[102	83]	218	0
28	✓			[78	87	101	120	177]	270	300	272	198	186	169	166	158	(157	157)	156	158	164	172	179	[142	48	27	24]	153	0
29	✓			[33	47	61	108]	160	160	217	215	179	160	130	101	[75	76	71	57	88	94	92	102	102	89	87	83]	108	0
30	✓	✓	✓	[93	94	134]	161	157	162	172	162	150	130	120	107	101	99	104	107	128	135	135	153	161	167	173	164	136	0
31	✓			168	175	183	189	187	201	201	201	192	196	196	179	173	179	178	173	172	171	167	171	186	202	216	(227)	187	1
MEANS * 17 DAYS				163	169	176	198	216	222	231	220	197	185	169	154	152	148	146	141	144	146	143	152	158	151	147	154	170	
MEANS † 11 DAYS				175	185	196	210	224	239	242	223	204	191	173	166	157	148	145	145	145	147	148	159	166	170	168	170	179	
MEANS ‡ 8 DAYS				185	198	213	229	237	248	253	233	209	190	172	166	162	155	149	150	148	152	152	164	174	182	182	184	187	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 148

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1926

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			98	94	89	73	59	[32	73]	125	134	121	141	153	134	116	120	121	122	113	114	112	118	128	108	97	108	0
2	✓	✓	✓	90	91	87	98	108	116	122	137	153	153	154	159	160	150	140	137	134	125	121	126	126	134	129	129	128	0
3				124	—	—	—	—	—	—	—	147	151	160	162	153	145	145	141	116	117	122	120	114	121	121	116		0
4	✓	✓	✓	114	108	121	122	120	120	149	163	153	153	154	153	160	137	81	69	69	85	101	113	133	134	124	113	123	0
5	✓	✓		105	101	94	108	137	176	193	211	213	211	198	189	173	163	162	159	149	145	132	130	[113	99	95	105]	148	0
6	✓	✓	✓	[122	153]	190	228	261	262	285	286	289	277	255	242	213	201	203	197	185	176	156	134	151	173	179	176	208	0
7	✓	✓	✓	164	169	189	240	281	314	349	349	306	262	198	160	147	122	(129)	136	130	142	147	151	147	149	151	164	196	0
8	✓	✓		185	186	189	179	198	262	231	179	202	218	201	176	[132	95	112	99	129	118	110	109	94	93	85	77]	152	0
9				[73	74	90]	—	—	—	—	—	—	128	128	122	129	134	132	129	125	122	122	112	118	126	129	—		0
10																													
11																													
12																													
13																													
14																													
15																													
16																													
17																													
18																													
19																													
20																													
21				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	158	148	140	142	140	162	197		0
22	✓			203	210	230	248	248	267	301	283	226	186	{ 166	162	138 }	231	213	{ 195	156	150	154	114	125	139	169	162 }	195	2
23	✓			{ 168	176	194	197 }	230	140	139	148	152	151	145	141	132	118	129	118	116	115	104	91	[76	73	55	48]	132	1
24	✓	✓		[76	78	78	88]	141	142	163	174	158	168	164	166	166	165	160	152	140	139	130	138	150	156	160	159	142	0
25	✓	✓	✓	147	150	138	139	157	169	176	169	145	128	116	116	140	163	165	174	170	176	172	162	160	175	190	212	159	0
26	✓	✓	✓	244	296	285	303	301	332	341	307	244	209	190	196	187	184	175	163	163	162	140	163	182	190	203	235	225	0
27	✓	✓	✓	266	256	312	341	357	350	341	264	223	196	187	189	186	175	165	164	162	151	132	108	104	113	[84	66]	204	0
28	✓			[68	66	79	93	151]	255	281	261	201	186	175	170	153	151	(146)	125	128	114	127	142	[112	39	16	14]	136	0
29	✓			[17	25	36	88]	139	162	221	224	183	152	125	95	[75	75	64	49	75	81	79	84	74	65	64	62]	96	0
30	✓	✓	✓	[61	58]	(128	128)	128	160	164	170	170	132	125	107	102	103	102	103	123	130	132	142	153	166	171	160	130	0
31	✓			163	166	176	187	191	201	202	210	199	199	202	188	186	188	191	184	188	182	171	165	164	176	189	(195)	186	1
MEANS * 17 DAYS				135	140	154	168	189	204	219	215	197	182	170	162	152	149	145	138	138	136	131	128	128	130	128	128	157	
MEANS † 11 DAYS				143	150	165	179	199	218	229	219	205	192	177	168	161	151	145	141	141	141	134	134	138	144	143	145	166	
MEANS ‡ 8 DAYS				151	160	181	200	214	228	241	231	210	189	172	165	162	154	145	143	142	143	138	137	144	154	154	157	171	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 149

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				Z	Z	Z	Z	52	46	48	52	50	59	63	61	55	48	65	57	57	59	65	74	88	92	83	79		2
2	✓	✓		74	83	96	92	88	83	70	57	57	61	61	70	79	88	92	101	101	105	109	[135	190	221	262	168]	106	0
3	✓	✓		105	101	103	98	96	88	81	81	77	83	79	77	90	98	105	[122	131	135	126	139	143	179	187	190]	113	0
4	✓			[229	286	342	369	296	219]	98	74	74	63	61	77	74	79	79	88	92	[98	126	113	135	143	146	162]	147	0
5	✓	✓		[187	198	202	210	171	131]	83	52	52	52	65	65	96	92	96	98	92	[118	131	116	146	187	214	226]	128	0
6	✓	✓		[183	181	159	235	254	256	224	175]	146	131	116	118	118	113	109	[120	141	169	179	171	154	137	152	173]	163	0
7	✓	✓		[178	197	233	250	229	168]	109	70	67	72	86	94	92	113	111	105	118	[156	156	143	152	164	179	175]	142	0
8	✓	✓		[164	173	188	171	156	137]	118	120	116	107	92	98	94	96	107	109	98	101	103	94	92	120	101	83	118	0
9	✓	✓	✓	65	65	57	74	74	83	79	83	88	74	65	65	61	74	83	96	96	96	109	103	92	94	96	103	82	0
10				103	107	N 29	86	77	57	70	70	70	70	74	Z	Z	101	79	70	[74]	65	70	83	79	70	70	65		1
11	✓	✓	✓	77	67	81	79	67	55	55	67	77	77	65	65	67	70	79	74	88	79	70	63	90	86	52	55	71	0
12	✓	✓	✓	46	59	74	67	46	46	52	65	52	35	61	55	59	79	77	72	81	88	92	88	92	88	101	105	70	0
13	✓	✓	✓	101	126	124	133	105	90	74	70	74	72	65	61	63	67	65	65	74	88	96	92	88	88	92	101	86	0
14				—	—	—	—	—	—	—	—	61	61	61	61	65	70	70	74	72	83	88	94	101	103	124	148		0
15	✓	✓	✓	159	118	88	79	70	70	65	57	52	48	52	57	52	48	48	52	65	74	86	90	86	79	79	70	73	0
16	✓	✓	✓	77	98	96	96	86	86	74	72	63	63	59	57	55	63	72	[81	86	88	81	137	109	94	122	139]	86	0
17	✓	✓		[139	126	109]	88	103	92	101	[111	146	92]	57	63	65	77	79	88	79	77	[118	137	181	216	243	210]	117	0
18	✓	✓		[150	113	90]	59	70	74	65	67	70	72	55	50	57	63	72	70	77	74	63	70	65	48	48	48	70	0
19	✓	✓		48	48	[101	109	113	198	214	122	126	101]	77	67	65	61	70	74	83	92	[113	135	139	135	109	122]	105	0
20	✓	✓	✓	[139	101]	74	83	92	83	74	83	72	72	44	40	31	40	50	50	63	63	63	72	81	113	122	116	76	0
21	✓	✓	✓	122	131	139	118	111	101	90	88	90	90	94	88	88	79	83	[92	109	118	126	113	96	83	65	103]	101	0
22	✓	✓		[159	195	139	92]	70	63	63	67	70	65	70	72	70	77	72	74	57	59	[52	156	139	150	141	171]	98	0
23	✓	✓		[171	166	162	126	148	181	175	163	143]	74	81	74	72	74	72	[83	105	74	109	178	124	148	197	226]	131	0
24	✓			[185	166	159	122]	96	88	79	77	74	65	65	63	61	59	59	70	72	92	92	[122	139	159	179	210]	106	0
25	✓	✓		[139]	70	86	88	88	90	74	74	70	70	70	70	65	65	65	61	61	70	74	83	88	94	88	83	79	0
26	✓	✓		103	113	122	109	113	109	109	105	103	107	107	94	[113]	103	107	109	103	98	[111	137	156	143	207	226]	121	0
27				[156	118]	96	83	83	83	79	83	79	86	92	[113	107	96	107	96	96	92	101	120	164	Z+	Z+	Z+]		0
28				[Z+	Z+	Z+	Z+	208]	143	150	148	131	109	105	96	101	[139	143	156	179	183	195	152	148	168	183	198]		0
29	✓	✓		[190	175	148	135	156	139	135	164	143	143	131	118	118	126	126	126	139	152	143	164	164	156	135	131]	144	0
30	✓	✓		109	96	113	[156	175	241	253	198	122]	101	101	96	92	92	86	[105	126	122	116	118	111	111	92	135]	128	0
31	✓	✓		[159	197	227	207	118]	107	92	81	77	61	65	65	74	74	79	92	88	92	96	[122	109	109	96	113]	108	0
MEANS * 26 DAYS				133	133	135	132	123	118	104	95	88	79	75	74	76	80	82	88	93	99	105	119	122	129	135	140	107	
MEANS † 24 DAYS				127	125	125	123	117	115	105	96	90	80	76	74	76	80	84	88	94	100	105	119	120	127	132	136	105	
MEANS ‡ 8 DAYS				98	96	92	91	81	77	70	73	71	66	63	61	60	65	70	73	83	87	90	95	92	91	91	99	81	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 150

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	736.7	32.7	23	38.7	22.5	T	7.4	ESE	4	ENE	6	SSE	6	SE	3	ACu; ASt; Cu; St	4- 6	ACu; ASt; Cu; St	1- 3	Lightning in NW in evening
2	739.4	26.8	49	34.9	18.2		13.0	S	2	SE	11	SE	6	S	6	Ci; CiCu	1- 3	Ci; CiCu	1- 3	Smoke in evening
3	739.4	25.7	46	33.4	19.2		12.3	SE	7	SE	5	SSW	8	SSW	8	Ci; ASt; Cu	0- 1	Cu	0- 1	
4	741.2	25.4	45	33.4	15.5	T	12.8	S	4	ESE	7	SSE	3	S	6		0		0	Air probably smoky in am and evening
5	739.1	29.1	36	37.1	13.8		12.7	S	1	ENE	5	W	2	S	5		0		0	
6	737.4	24.5	44	33.1	15.6		12.8	S	6	SSE	7	S	6	S	5	Ci; CiSt	0- 1	Ci; CiSt	0- 1	Hazy, possibly with smoke, in am
7	736.0	25.5	45	34.4	14.9		13.0	SSW	2	SE	3	SW	8	SSW	4		0	CiSt	0- 1	Dew early
8	736.3	22.4	52	29.4	12.8		12.6	SSW	2	SSW	5	WSW	9	SW	7	Ci; CiSt; StCu	1- 3	StCu	4- 8	Overcast at 20h with CuNb; dew in early am
9	736.0	18.8	61	24.1	15.6	0.01	4.0	..	0	WSW	1	W	13	..	0	Cu; StCu	10	Cu; StCu	10- 4	
10	734.7	15.9	61	21.2	12.3	0.02	2.9	WSW	3	NW	2	WNW	10	WSW	1	Ci; CiSt; StCu; CuNb	10- 7	Ci; CiSt; StCu; CuNb	7- 8	Few drops rain
11	735.8	19.8	49	23.9	8.8		7.4	W	4	W	13	WSW	11	SW	1	CiCu; Cu	4- 8	CiCu; Cu; CuNb	7- 8	Dew early; rain in evening
12	738.5	18.7	69	27.2	9.7	T	8.1	..	0	..	0	SW	4	SSW	3	CiSt	4- 6	CiSt	4- 6	Fog in am
13	738.8	23.3	58	33.6	12.7		12.4	SSE	2	SE	5	SSW	4	S	7	CiSt; StCu	4- 6	CiSt	4- 6	Dew early
14	738.5	22.5	52	32.5	14.5		12.9	S	4	SE	8	SSE	9	S	7		0		0	
15	740.3	21.6	47	33.2	15.8		12.9	SE	9	ESE	13	SE	11	SSE	3		0	CiSt	0- 1	
16	738.9	25.0	34	34.8	16.8		12.8	SE	5	ESE	8	ESE	6	S	8	Ci	0- 1	Ci	0- 1	Large fires in N
17	738.6	24.3	37	35.9	15.5		12.6	S	3	ESE	10	S	3	S	9		0		0	Air smoky; fires in all directions
18	737.1	26.7	29	41.7	18.0		10.7	ESE	6	E	12	W	1	S	5	Ci; CiSt	1- 3	CiCu; ACu; ASt; St	4- 8	
19	734.1	25.8	56	36.2	19.6		9.6	WSW	5	..	0	SSW	10	SSW	9	CiCu; ACu; ASt	7- 4	CiCu; ACu; ASt	7- 8	Hazy, probably with smoke, in am and evening
20	739.4	20.3	44	30.0	15.4		11.8	SE	15	SE	18	SE	18	SE	12	Ci; CiCu; CiSt	4- 6	Ci; CiCu; CiSt	4- 6	Hazy, probably with smoke
21	740.9	20.7	37	32.8	12.5		12.3	ESE	13	E	12	ESE	11	SE	3		0		0	
22	738.5	29.2	23	38.9	16.1		12.1	SE	1	NE	10	N	1	S	8		0		0	Fires in W in pm; air smoky
23	736.3	30.7	17	40.4	14.2		12.3	S	2	SE	0	ESE	1	S	7		0		0	Much smoke all day
24	735.2	24.3	43	36.7	17.0		12.0	S	4	ESE	9	SE	6	S	8		0		0	Much smoke all day
25	737.1	21.6	49	34.4	15.6		12.6	SE	12	ESE	16	SE	10	SE	5		0		0	Air hazy, probably with smoke
26	738.1	22.0	44	35.9	15.7		12.3	SE	10	E	14	ESE	6	ESE	4		0		0	Air hazy, probably with smoke
27	735.3	31.0	25	41.2	21.1		9.1	E	3	NE	11	SSE	2	SSE	0	Cu; CiSt	1- 3	CiSt; CiCu; StCu	1- 3	Air smoky
28	735.1	30.3	24	36.8	17.2		11.1	..	0	W	1	SW	11	SSW	12	Ci; CiSt; StCu	1- 3	Cu	1- 3	Hazy in am, very smoky in pm
29	739.6	20.5	44	29.7	14.5		12.4	SSE	3	S	12	S	7	SSW	9		0		0	Smoky in pm
30	739.9	20.2	52	28.2	13.0		12.4	S	11	SE	10	S	9	S	9	Ci; CiCu	0- 1		0	Hazy in am, probably with smoke
31	740.6	19.8	42	29.3	12.5		12.5	S	4	ESE	14	SE	6	S	9		0		0	Very smoky in pm
SUM						0.03														
MEAN	737.8	24.0	43	33.3	15.4		11.2		4.7		8.0		7.0		5.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 151

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			≷172	251	228	295≷	312	324	331	310	290	233	186	182	187	182	195	198	191	191	207	193	189	195	223	233	229	2
2	✓	✓		241	231	216	211	217	223	262	261	258	241	222	192	175	164	158	152	145	135	131	⌈112	88	80	78	118⌋	180	0
3	✓	✓		191	211	218	219	218	215	216	216	218	215	216	187	172	166	162	⌈131	130	121	133	140	138	134	117	104⌋	174	0
4				⌈80	76	62	73	81	102⌋	167	203	215	213	202	186	175	169	171	(157	138)⌈129	87	108	118	107	117	110⌋			0
5	✓	✓		⌈101	101	93	94	111	150⌋	267	320	284	259	228	192	181	179	177	172	166	⌈128	101	142	131	92	74	65⌋	159	0
6	✓	✓		⌈84	89	88	69	53	51	64	89⌋	102	106	123	124	118	130	146	⌈123	87	80	92	104	118	125	116	111⌋	100	0
7	✓	✓		⌈101	93	89	81	93	121⌋	168	229	251	241	221	202	189	182	175	162	147	⌈107	95	116	110	104	101	106⌋	145	0
8	✓	✓		⌈104	102	102	123	123	135⌋	143	130	133	157	148	133	135	135	134	133	134	131	134	128	131	152	164	178	134	0
9	✓	✓	✓	189	192	191	178	162	160	162	146	133	137	137	138	121	125	121	128	133	133	131	133	158	160	147	172	149	0
10	✓			177	146	134	162	191	202	183	167	158	134	148	147	131	145	134	130	130	133	134	129	137	152	171	187	153	1
11	✓	✓	✓	193	206	185	201	219	243	245	193	167	154	147	138	145	(142	133)	130	130	130	130	124	135	161	198	201	169	0
12	✓	✓	✓	207	201	198	206	228	241	267	215	179	185	175	168	167	164	162	150	133	145	137	137	147	161	152	150	178	0
13	✓	✓	✓	147	134	125	118	128	147	161	162	162	162	162	169	164	158	160	146	134	112	116	129	134	135	135	134	143	0
14	✓			142	145	140	147	173	197	196	208	201	193	198	179	153	137	117	108	106	92	116	120	120	110	106	106	146	0
15	✓	✓	✓	107	140	183	202	198	196	195	210	215	185	160	157	145	147	150	157	158	153	146	147	157	173	193	202	170	0
16	✓	✓	✓	189	189	208	221	230	229	243	254	254	261	254	229	181	166	171	⌈133	78	107	160	85	93	114	106	104⌋	177	0
17	✓	✓		⌈102	104	133⌋	179	152	157	142	⌈118	60	128⌋	213	207	201	177	157	118	125	147	⌈93	89	75	65	64	74⌋	128	0
18	✓	✓		⌈89	112	175⌋	219	207	203	217	203	177	186	215	204	186	185	(147)	102	93	116	99	118	142	160	169	177	163	0
19	✓	✓		201	204	⌈133	104	102	104	(64	88	85)	107⌋	114	130	125	135	133	118	120	114	⌈101	88	85	81	75	71⌋	112	0
20	✓	✓	✓	⌈74	101⌋	94	107	142	147	172	153	140	123	146	158	158	148	145	142	143	133	133	134	137	99	93	116	131	0
21	✓	✓	✓	130	121	123	147	173	187	197	191	183	164	152	⌈152	152	152	152⌋	⌈107	94	84	76	104	128	148	178	130⌋	143	0
22	✓	✓		⌈124	130	142	187⌋	257	261	254	233	204	201	189	186	173	166	162	167	158	146	⌈101	30	32	47	48	42⌋	152	0
23	✓	✓		⌈46	47	58	69	64	61	61	54	75⌋	134	116	118	142	142	130	⌈75	45	81	73	50	58	62	47	47⌋	77	0
24				⌈50	42	39	64⌋	101	111	107	104	111	135	150	137	142	146	133	⌈101	101	61	74	74	74	65	60	50⌋		0
25	✓	✓		(138)	134	140	147	145	148	148	148	(154	157	164)	160	150	(133)	118	145	153	158	158	162	166	154	152	167	150	0
26	✓	✓		172	150	158	160	146	152	150	148	150	130	146	166	⌈121⌋	156	161	154	150	145	⌈129	116	107	107	73	88⌋	139	0
27				⌈125	≷171⌋	222	254	245	240	253	233	207	198	147	⌈118	81	85	93	106	102	74	61⌋	—	—	—	—	—		0
28				—	—	—	—	—	—	—	—	—	—	—	179	152	⌈110	94	81	75	73	60	111	129	121	102	104⌋		0
29	✓	✓		⌈104	110	121	121	117	112	110	75	84	89	89	88	104	97	101	108	94	95	106	98	107	106	116	118⌋	103	0
30	✓	✓		⌈101	97	94	69	53	46	48	64	99⌋	120	107	112	125	147	135	⌈93	64	78	89	85	97	102	95	93⌋	92	0
31	✓	✓		⌈89	92	76	80	134⌋	143	157	142	147	152	160	157	140	147	145	106	135	134	129	⌈65	76	83	81	85⌋	119	0
MEANS * 27 DAYS				138	142	142	152	161	169	179	175	169	169	168	162	153	152	147	133	125	123	120	114	118	121	121	125	145	
MEANS † 24 DAYS				134	137	139	146	153	160	171	168	163	166	167	161	153	152	147	131	123	121	116	110	115	117	116	119	141	
MEANS ‡ 8 DAYS				154	160	163	172	185	194	205	190	179	171	167	164	154	150	149	137	125	125	129	124	136	144	150	151	157	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 152

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			172	282	282	251	307	315	325	313	295	228	182	186	185	180	191	184	179	188	182	164	146	165	177	190	220	2
2	✓	✓		195	195	180	178	191	200	248	257	251	232	214	191	177	157	146	140	131	123	119	91	66	57	52	78	161	0
3	✓	✓		157	178	179	177	168	182	192	199	202	192	190	173	159	155	149	108	110	99	107	107	105	97	86	68	147	0
4				—	—	—	—	—	—	—	—	219	213	202	172	165	158	159	147	(132)	110	75	98	96	89	98	86		0
5	✓	✓		65	58	54	53	76	115	245	314	276	249	205	180	161	164	162	155	148	108	88	119	100	75	62	58	137	0
6	✓	✓		66	66	74	48	37	37	40	75	90	91	110	104	108	116	128	111	70	65	71	78	90	99	98	86	82	0
7	✓	✓		69	63	53	53	62	88	143	220	248	234	208	186	178	169	156	146	132	89	83	88	89	76	72	54	123	0
8	✓	✓		72	68	64	63	59	76	113	111	118	134	133	119	124	132	131	119	114	114	104	103	99	110	110	113	104	0
9	✓	✓	✓	134	135	133	123	126	128	133	121	115	123	126	125	121	123	124	114	111	110	100	106	98	104	99	107	118	0
10	✓			122	106	114	121	136	159	150	153	149	136	135	134	118	132	(125	122)	123	118	111	100	100	118	136	153	128	1
11	✓	✓	✓	155	172	150	161	178	198	216	178	147	142	142	134	143	137	(132)	121	110	108	113	110	97	111	125	134	142	0
12	✓	✓	✓	153	159	134	147	185	194	200	171	168	171	169	172	180	170	167	146	136	133	118	119	117	128	130	122	154	0
13	✓	✓	✓	122	100	88	86	99	118	141	155	157	149	157	163	157	146	148	139	132	107	106	117	123	124	114	111	127	0
14	✓			122	125	124	131	146	157	180	199	203	199	204	188	156	136	113	113	104	92	105	106	99	99	95	84	137	0
15	✓	✓	✓	86	114	169	191	191	188	190	213	(216	186	159)	156	146	150	150	158	158	153	135	134	134	146	168	180	161	0
16	✓	✓	✓	178	168	181	199	214	211	227	247	261	258	256	233	181	176	176	128	74	103	145	84	88	107	97	81	170	0
17	✓	✓		81	96	121	154	131	146	135	111	60	123	205	204	196	167	150	108	118	135	88	81	60	51	46	51	117	0
18	✓	✓		69	95	167	215	201	191	205	191	163	178	211	202	192	(179)	143	97	78	92	97	104	125	147	156	168	153	0
19	✓	✓		179	191	111	94	85	65	54	75	72	86	100	118	116	123	122	111	107	99	87	74	68	70	66	66	97	0
20	✓	✓	✓	60	90	94	103	127	204	161	143	132	110	155	158	162	164	157	146	135	133	132	125	123	86	86	103	129	0
21	✓	✓	✓	113	114	110	125	147	163	177	177	163	155	145	135	137	140	136	101	88	76	76	91	98	121	136	98	126	0
22	✓	✓		88	88	101	155	211	217	220	215	193	190	179	169	168	167	159	155	146	133	95	28	24	40	42	37	134	0
23	✓	✓		36	40	42	62	64	53	51	44	62	111	100	107	134	130	123	64	40	75	64	42	54	52	37	39	68	0
24				—	—	—	—	—	—	—	—	115	134	143	133	135	139	125	97	90	54	65	64	56	53	50	40		0
25	✓	✓		(123)	122	130	132	126	135	140	136	143	146	153	149	147	133	(125)	136	147	148	147	145	136	134	141	155	139	0
26	✓	✓		143	131	131	133	125	134	134	133	134	131	133	158	113	146	152	145	134	132	113	97	87	86	56	66	123	0
27				100	145	181	203	191	190	205	211	186	181	133	104	74	76	78	88	80	64	51	44	36	26	24	36		0
28				36	35	31	37	64	101	94	99	126	134	149	169	147	96	80	68	63	62	50	88	96	92	74	69		0
29	✓	✓		69	64	70	69	74	80	77	66	75	75	78	78	86	86	87	94	74	71	87	77	86	87	95	97	79	0
30	✓	✓		86	89	88	63	44	41	48	58	98	110	103	105	123	134	131	81	52	74	80	75	84	86	86	75	84	0
31	✓	✓		70	60	51	52	116	123	136	134	143	149	154	154	137	147	132	98	130	123	111	60	65	66	70	71	106	0
MEANS * 27 DAYS				111	117	118	124	134	145	159	163	161	159	159	155	148	147	141	124	114	111	106	97	95	98	98	98	128	
MEANS † 24 DAYS				107	111	111	118	127	137	151	156	154	155	158	153	148	146	141	122	111	108	103	94	92	94	93	92	124	
MEANS ‡ 8 DAYS				125	132	132	142	158	176	181	176	170	162	164	160	153	151	149	132	118	115	116	111	110	116	119	117	141	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 153

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1927

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈168	187	255	272	244	211	148⌋	78	65	83	88	83	83	88	88	⌈105	139	156	148	203	148	148	160	199⌋	148	0
2	✓	✓		⌈199	180	207	242	230	168	126	172	184	187	187	168⌋	109	105	96	101	101	120	⌈131	194	211	259	216	184⌋	170	0
3	✓	✓		⌈168	205	284	307	342	288	355	230	168	152	118	109	96	92	96	74	103	184	255	192	223	192	156	152⌋	189	0
4	✓	✓		⌈148	148	139	148	146	152	154	170	166	154	131	107⌋	88	86	86	90	94	92	⌈116	111	131⌋	109	109	109	124	0
5			✓	105	⌈ 88	101	131	152	141	120	133	122⌋	88	88	101	90	88	98	90	⌈103	118	131	131⌋	≷N 83≶	—	—	—		1
6				—	—	—	—	—	—	—	—	≷ Z	Z	Z	Z	Z ≶	⌈116	101	86	78⌋	≷ Z	Z	Z	Z	Z	Z	N 86≶		2
7				⌈131	113	118	160	135	175	233	175⌋	96	83	65	48	≷ 57	N 17	N 0	195	Z	Z	Z	Z	Z	≷⌈113	250	325⌋		2
8				⌈312	305	257	235	227	195	156	143	152	143⌋	≷ Z	113	111	126	N 27	N107≶	⌈116	128	143	148	168	178	160	124⌋		1
9				109	74	74	70	65	50	40	50	67	—	—	—	—	—	—	—	78	83	88	78	92	96	88	88		0
10	✓	✓	✓	74	70	65	57	57	57	44	48	67	61	44	72	67	65	59	76	92	116	126	126	135	128	122	109	81	0
11	✓	✓	✓	107	78	86	88	101	83	105	113	109	88	92	96	105	107	105	109	⌈131	131	148	175	152	135	126	131⌋	113	0
12	✓	✓		⌈152	207	180	187	192	192	152⌋	118	126	[109]	98	105	101	105	107	⌈109	118	113	122	148	122	118	168	156⌋	138	0
13	✓	✓	✓	131	128	126	107	92	88	76	78	90	88	88	88	88	96	96	92	88	98	88	67	105	88	96	88	95	0
14	✓	✓		107	90	74	59	50	50	46	57	67	67	88	101	105	103	101	94	⌈111	135⌋	92	88	81	55	[N 46	N 31]	79	1
15	✓	✓		[N 48	N 19	N 35	N 19	N 44]	⌈ 86	72	92	135	120	133	166	133	122	101	105	109	152	152	148	182	223	220	248⌋	119	1
16	✓	✓		⌈277	272	279	250	306	294	207	156	139⌋	122	109	96	96	101	101	105	⌈113	137	158⌋	[37	44	59	57	59⌋	149	0
17	✓	✓		[83]	156	180	172	156	118	74	83	83	88	78	88	96	118	135	143	148	139	126	139	184	195	215	233⌋	135	0
18	✓	✓		⌈223	225	294	292	227	164	135	137	122	122	78⌋	83	96	105	109	⌈131	152	148	148	131	139	156	180	162⌋	157	0
19	✓	✓		⌈189	180	195	162	175	86	92	164	164	152	135	135	135	139	143	156	160	172	172	192	180	203	199	207⌋	162	0
20	✓	✓		⌈152	160	152	143	160	148⌋	103	124	141	120	101	98	88	92	92	107	103	105	109	122	156	137	122	122	123	0
21	✓	✓		111	124	113	⌈160	173	168	148	131	122	126	148	148	164	172	143	148	131	113	122	143	143	148	168	156⌋	143	0
22	✓	✓		⌈172	199	238	292	296	253	242	218	184	168	139⌋	109	101	96	113	⌈143	182	211	173	160	182	201	213	215⌋	188	0
23	✓	✓		⌈199	N 65	133	N 72	N 98	154	90	74	[86]	96	105	98	103	103	105	103	120	139	162	172	192⌋	152	139	131	120	1
24	✓	✓		122	118	131	148	152	143	135	126	118	135	131	124	126	124	116	⌈135	152	141	152	164	230	277	327	238⌋	157	0
25				⌈184	152⌋	109	92	92	78	88	92	88	74	92	83	88	105	⌈122	135	135	143	139	309	338	Z+	382	Z+ ⌋		0
26				[Z+	Z+	Z+	Z+	Z+	Z+	312	143⌋	81	78	83	101	92	105	⌈118	139	168	128	124	199	168	215	257	Z+ ⌋		0
27				⌈ Z+	Z+	Z+	340	275	131	152	120⌋	98	92	90	90	90	105	≷ Z	Z	Z	116	Z	126	Z	Z	Z	160≶		1
28				≷199	Z	172	Z	207	195≶	135	113	148	152	135	139	122	118	143	148	⌈207	338	279	Z	Z	Z	211	170⌋		1
29																													
30																													
31																													
MEANS ✱ 19 DAYS				149	148	167	167	171	153	132	125	123	118	110	109	104	106	105	112	124	137	142	143	155	157	160	154	136	
MEANS † 19 DAYS				149	148	167	167	171	153	132	125	123	118	110	109	104	106	105	112	124	137	142	143	155	157	160	154	136	
MEANS ‡ 4 DAYS				104	91	94	96	100	92	86	93	97	81	78	89	88	88	86	92	98	101	104	96	116	105	104	98	95	

DESIGNATIONS AND REMARKS:

✱=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 154

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.2	23.2	35	31.6	10.4		12.5	S	3	SE	6	S	8	S	13		0	Cu; StCu	1- 3	Dew early; hazy in am, with smoke
2	742.3	16.0	38	28.1	8.0		12.7	S	6	E	14	SE	11	S	8		0		0	Hazy in am, probably with smoke
3	741.0	22.8	37	32.6	8.7		12.1	S	3	E	1	SW	5	SSW	3		0		0	Much smoke
4	739.7	19.5	56	29.7	10.6		12.4	SSW	3	SSE	8	S	5	S	5	Ci; Cu; StCu	1- 3	Cu; StCu	1- 3	Smoky in am and pm
5	738.6	24.4	40	36.6	12.7		11.2	S	2	E	4	SW	1	S	6	Ci; CiSt; CiCu	1- 3	Cu; StCu	1- 3	Air smoky
6	738.7	24.5	41	37.2	14.8		4.6	S	0	SE	3	SSE	6	S	3	Cu; StCu; CuNb	4-10	Cu; StCu; CuNb	4-10	Air smoky; thundery all day; few drops rain in am
7	738.4	31.0	25	42.2	20.0	T	7.9	SSE	2	E	7	W	9	NW	8	Cu; StCu	4- 6	St; Nb; CuNb	7- 8	Severe thunderstorm in pm
8	739.2	24.0	67	31.8	19.3	0.20	6.2	WNW	3	WNW	6	WNW	6	WSW	3	Ci; CiSt; Cu; StCu	1- 6	Ci; CiSt; Cu; StCu	1- 6	Hazy in am, possibly with smoke
9	741.1	21.0	65	32.9	15.1		8.2	..	0	..	0	WNW	6	SW	2	Cu; StCu	4- 6	CiSt; CiCu	4- 6	Dew early; slightly hazy in am, possibly with smoke
10	741.0	21.7	64	23.6	13.5		3.3	..	0	W	4	SW	13	SSW	5	ACu; ASt; CuNb	9-10	Cu; StCu; CuNb	4- 8	Few drops rain in am
11	744.0	16.3	48	24.7	10.3		9.0	..	0	SE	10	SE	9	SE	3	ACu; Cu	4- 8	ACu; Cu	1- 3	
12	745.4	19.4	34	30.3	12.6		11.7	SE	14	E	12	E	11	SE	3		0		0	
13	743.3	25.7	25	35.1	17.8		11.7	E	6	NE	13	NE	5	E	1		0		0	Somewhat smoky
14	740.6	29.3	17	40.3	17.2		11.8	..	0	NNE	7	..	0	SSW	1		0		0	Air smoky
15	738.7	28.4	26	38.1	12.2		11.4	..	0	..	0	WSW	5	SW	5		0		0	Very smoky all day
16	739.9	21.6	59	33.8	14.3		10.6	SSW	2	SW	3	SSW	1	SSW	6	ASt	0- 1	Ci; CiSt	1- 3	Dew early; much smoke all day
17	740.7	21.1	39	33.7	16.5		10.6	SSW	10	ESE	11	SE	3	SSE	4	Ci	0- 1	Ci; CiSt	1- 3	Smoky all day
18	737.9	25.1	32	37.4	19.5		7.0	SE	6	ESE	7	SE	3	WSW	3	Ci; CiSt; StCu	4- 8	Ci; CiSt; StCu	4- 6	Smoky all day
19	737.4	22.5	63	29.6	14.4		10.0	..	0	W	4	W	8	..	0	Ci; CiSt; StCu	1- 3	Ci; CiSt; StCu	1- 3	Much smoke all day
20	739.5	22.5	61	29.3	13.0		8.1	..	0	W	6	WSW	8	SSW	3	Cu; StCu	1- 3	Cu; StCu	1- 3	Dew early; hazy in am, possibly with smoke
21	741.8	21.0	57	31.8	14.5		11.5	S	7	SSE	8	S	6	SSW	10	Ci; CiSt; Cu; StCu	1- 3	Ci; CiSt; Cu; StCu	1- 3	Hazy in am, possibly with smoke
22	739.3	21.5	54	31.4	15.5		9.2	S	9	SSE	10	S	14	S	10	CiSt; Cu; StCu	4- 6	CiSt; Cu; StCu	1- 3	Hazy all day, probably with smoke
23	741.9	19.7	50	28.7	16.1		7.9	SE	15	ESE	20	ESE	18	ENE	7	Cu; StCu	4- 6	Cu; StCu	1- 3	Somewhat hazy in am
24	742.0	19.5	45	32.3	14.6		11.3	E	8	E	15	E	9	ESE	4		0		0	Smoky in pm
25	738.3	25.7	33	35.1	17.0		11.2	E	2	NE	7	SE	1	S	5	CiSt	0- 1	CiSt	0- 1	Much smoke in pm and evening
26	737.8	29.6	41	39.3	16.1		11.1	S	2	NE	3	WSW	1	SSW	6	CiSt; Cu; StCu	1- 3	CiSt; Cu; StCu	1- 3	Smoky in pm
27	737.3	32.3	43	40.3	21.7		6.8	SSE	3	NNE	13	N	4	SW	1	CiCu; StCu; Cu	4- 6	StCu; CuNb	7- 8	Brief thunderstorm in pm; smoky in pm; heavy rain at night
28	736.7	29.1	63	38.2	23.9	0.04	7.4	E	2	..	0	SW	4	SSW	4	CiSt; CiCu; StCu	4- 6	CiSt; CiCu; StCu	4- 6	Hazy all day; much smoke in pm
29																				
30																				
31																				
SUM						0.24														
MEAN	740.1	23.5	45	33.4	15.0		9.6	3.9		7.2		6.4		4.7						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[81	74	60	63	68	75	106]	194	209	168	130	160	159	(145)	136	[94	77	87	110	54	106	124	119	88]	112	0
2	✓	✓		[78	82	73	65	75	105	158	53	36	36	27	35]	122	140	144	138	144	130	[112	67	64	60	65	80]	87	0
3	✓	✓		[75	57	45	38	42	43	46	56	64	75	78	81	85	99	99	75	80	59	29	73	74	82	102	109]	69	0
4	✓	✓		[106	116	127	123	119	115	98	88	89	88	85	106]	140	156	141	141	143	145	[116	116	95]	133	145	143	120	0
5	✓			137	[115	106	105	108	106	122	101	110]	164	160	129	130	141	141	134	[130	96	99	94	89	74	74	78]	114	1
6	✓			[80	91	102	101	94	85	96]	≷ 87	53	57	46	32	46≷	[73	75	94]	≷ 88	84	49	74	49	59	49≷	[73]	72	2
7				[87	88	74	60	78	57	50	73]	122	145	163	164	≷144	113	72	74	29	32	—	46	92≷	[88	73	60]		2
8	✓			[61	59	63	65	73	80	85	91	96	108]	≷101≷	116	123	(112)	103	110	[102	95	102	102	102	102	115	123]	95	1
9	✓			126	127	131	149	151	151	202	200	163	155	149	156	156	158	155	140	133	127	137	138	141	148	155	167	151	0
10	✓	✓		193	200	223	244	215	228	264	249	160	148	143	131	116	108	112	105	112	105	113	119	123	130	147	162	160	0
11	✓	✓		168	205	204	188	190	196	192	167	159	154	148	144	112	95	89	96	[64	64	32	47	67	81	82	92]	126	0
12	✓	✓		[92	91	102	95	94	88	101]	137	144	156	144	144	130	115	115	[95	64	74	65	57	91	94	103	122]	105	0
13	✓	✓	✓	148	156	188	211	241	263	275	251	205	198	186	182	175	177	162	158	[108	96	134	141	91	110	140	168]	174	0
14	✓	✓		[101	126	170	237]	274	267	291	275	215	193	160	110	95	105	115	130	[92	72]	138	154	179	198	201	192	170	1
15	✓	✓		192	193	171	[120	72	72	88	70	49	46	33	30	45	(70	96)	112	99	78	81	85	74	61	57	50]	85	1
16	✓	✓		[56	46	50	52	53	61	75	87	99]	108	119	127	124	124	110	88	[87	46	57	50	50	57	64	61]	77	0
17	✓	✓		[49	27	27	33	36	56	78	88	75	49	60	57	65	50	49	33	39	32	32	23	24	26	21	35]	44	0
18	✓	✓		[46	50	33	45	45	72	77	88	99	102	147]	174	170	143	134	[99	88	88	95	105	102	105	110	108]	97	0
19	✓	✓		[80	64	74	68	53	85	88	67	61	74	72	74	72	73	81	70	67	64	60	64	74	77	73	77]	71	0
20	✓	✓		[77	82	87	80	82	88]	102	99	98	115	133	141	149	148	155	152	145	141	138	134	115	129	143	144	120	0
21	✓	✓		130	109	103	[91	91	95	95	105	113	102	75	70	57	57	80	80	89	77	77	70	80	74	78	74]	86	0
22	✓	✓		[60	57	52	52	57	60	63	73	81	87	87]	102	101	(99)	85	[61	41	35	45	53	49	35	38	41]	63	0
23	✓	✓		[41	46	56	60	54	54	72	82	84	72	75	82	65	61	64	53	45	65	74	87	91]	162	183	185	80	1
24	✓	✓		190	186	181	170	159	160	170	174	170	167	173	175	170	160	162	[149	129	138	60	64	73	70	64	85]	142	0
25	✓			[127	159]	202	226	232	233	216	204	183	183	122	116	131	130	[91	53	32	46	49	23	18	27	33	33]	120	0
26	✓			[30	29	30	29	35	45	60	168]	247	226	200	173	158	143	[133	109	95	96	80	27	32	32	30	30]	93	0
27	✓			[36	45	50	65	84	175	140	163]	160	166	173	163	159	147	143	≷ 46	147	143	85	116≷	[92	89	95	103]	116	1
28	✓			[99]	≷ 88≷	[77	75	77	85]	101	119	103	113	119	115	112	[91	77	60	32	20	47	46	36	35	64	72]	78	1
29																													
30																													
31																													
MEANS * 27 DAYS				98	99	103	106	106	116	128	131	123	123	116	116	117	116	113	99	92	85	82	81	81	88	94	100	105	
MEANS † 29 DAYS				103	104	107	107	106	115	128	126	116	113	109	112	113	112	112	102	90	84	83	82	85	95	102	106	105	
MEANS ‡ 4 DAYS				162	169	180	187	188	198	213	192	158	166	159	146	133	134	126	125	112	108	125	128	112	130	147	160	152	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 156

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1927

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[61	50	38	36	38	44	81]	175	200	143	120	148	152	140	(135)	[85	62	70	25	45	94	102	90	63]	92	0
2	✓	✓		[56	60	50	38	39	68	137	48	30	25	26	31]	120	141	144	139	132	111	[95	61	48	40	52	59]	73	0
3	✓	✓		[57	39	25	23	21	27	23	33	52	54	60	65	76	85	82	54	62	43	26	58	43	61	83	80]	51	0
4	✓	✓	✓	[85	85	86	79	75	73	72	66	68	73	80	96]	125	146	136	129	122	132	[95	96	75]	105	120	108	97	0
5	✓			98	[85	79	74	66	75	85	73	105]	147	146	111	112	116	115	119	[111	78	78	79	74	58	54	56]	91	1
6	✓			[57	62	69	78	70	69	73]	≷ 81	83	58	69	72 ≷	[70	67	68	86]	≷ 81	75	96	51	39	51	67 ≷	[61]	69	2
7				[63	65	59	48	59	49	33	60]	109	126	142	154 ≷	135	112	72	61	92 ≷	—	—	—	—	[75	50	32]		2
8	✓			[37	38	46	48	48	56	63	73	83	85] ≷	82 ≷	95	106	108	(108)	96	[86	81	78	76	67	61	60	73]	73	1
9	✓			73	83	94	102	108	119	146	150	118	122	132	139	149	155	155	133	125	113	108	106	103	105	105	113	119	0
10	✓	✓	✓	144	156	180	197	176	188	224	226	150	136	121	120	108	100	106	96	95	85	89	88	96	93	87	106	132	0
11	✓	✓		109	123	120	129	121	143	140	143	141	141	141	133	105	88	86	94	[62	56	30	43	48	54	57	62]	99	0
12	✓	✓		[61	68	85	74	73	73	92]	132	132	142	133	130	120	105	107	[86	59	63	58	50	62	69	80	106]	90	0
13	✓	✓	✓	132	135	156	179	214	240	256	236	189	186	183	178	175	168	155	143	[92	81	109	120	68	90	113	134]	156	0
14	✓	✓		[92	92	143	213]	265	258	259	246	209	189	144	87	74	86	96	115	[83	53]	113	125	141	168	187	188	151	1
15	✓	✓		175	189	164	[113	65	58	74	60	38	27	25	23	38	56	75	96	82	66	65	66	60	45	38	26]	72	1
16	✓	✓		[32	27	26	26	21	22	38	61	73]	92	96	101	109	106	92	81	[72	38	38	50	50	51	50	59]	59	0
17	✓	✓		[43	22	20	30	32	43	73	85	67	51	63	56	51	40	40	36	32	32	26	23	21	26	21	26]	40	0
18	✓	✓		[34	37	28	32	43	60	68	76	82	87	141]	156	146	129	120	[86	73	72	78	88	80	75	70	68]	80	0
19	✓	✓		[56	50	37	33	26	57	51	51	53	59	65	63	60	61	65	54	52	52	50	39	42	39	50	38]	50	0
20	✓	✓		[57	58	61	65	56	62]	73	83	74	93	120	121	140	139	139	121	120	114	107	98	81	85	102	105	95	0
21	✓	✓		103	92	93	[69	66	73	81	93	94	96	63	61	51	46	70	73	79	72	69	59	65	56	58	61]	73	0
22	✓	✓		[50	48	43	38	38	45	52	58	67	67	74]	96	93	89	(73)	[51	33	34	38	40	38	30	31	32]	52	0
23	✓	✓		[26	38	46	59	56	50	69	79	75	61	70	83	60	60	61	50	40	59	61	72	69]	121	142	148	69	1
24	✓	✓		154	157	156	148	137	143	152	156	152	144	144	147	155	146	158	[140	116	119	54	50	50	42	45	62]	122	0
25	✓			[102	122]	161	189	202	188	180	176	156	162	106	101	121	118	[75	39	26	39	40	26	17	21	26	22]	101	0
26	✓			[18	16	17	17	22	26	44	137]	222	209	184	156	144	132	[106	78	61	70	61	23	23	27	25	23]	77	0
27	✓			[25	21	28	36	49	120	100	141]	141	147	166	159	154	143	123	≷ 146	67	125	60	83 ≷	[61	50	58	73]	95	1
28	✓			[65] ≷	75	52	38	52 ≷	[59]	74	72	74	75	86	83	82	[74	61	48	30	18	38	28	23	25	46	44]	55	1
29																													
30																													
31																													
MEANS ✱ 27 DAYS				74	75	78	80	81	90	103	111	108	106	105	104	107	105	102	92	76	72	66	65	61	65	71	74	86	
MEANS † 19 DAYS				80	80	82	83	82	91	106	111	102	98	98	100	103	102	102	91	77	71	65	67	65	71	78	81	87	
MEANS ‡ 4 DAYS				121	125	134	145	144	162	176	170	146	152	148	136	125	126	121	116	100	96	100	102	86	98	106	115	127	

DESIGNATIONS AND REMARKS:

✱=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 157

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[187	195	246	265	353	372	300	274	285	300	304	235	211	180	173	185	230	274	295	280	271	257	215	228]	255	0
2	✓	✓		[242	263	238	347	402	400	342	199	[121	133]	140	152	144	140	149	149	149	183	218	187	207	218	211	211]	214	0
3	✓	✓		[211	144	152	175	183	149]	133	123	119	117	108	112	112	114	137	[147	147	152	173	170	195	209	185	194]	153	0
4	✓	✓		[199	182	175	175	166	152	139	128]	108	89	87	82	87	95	108	119	121	123	[126	147	175	203	160	133]	137	0
5	✓	✓		117	112	100	95	82	76	70	65	65	57	61	61	[80	95	72	80]	70	67	149	N 63	61	57	61	61	78	1
6	✓	✓	✓	65	76	82	78	65	48	40	44	42	46	50	61	72	72	[119	128	121]	85	82	82	80	78	70	87	74	0
7	✓	✓		108	106	108	104	87	76	108	N 65	N 67	97	91	97	93	97	108	117	133	125	110	126	131	139	147	119	107	1
8	✓	✓	✓	110	114	112	82	82	74	82	87	100	89	91	96	95	97	108	112	108	97	93	91	104	97	70	76	94	0
9	✓	✓	✓	106	104	70	65	67	61	61	74	76	70	78	74	74	70	82	76	87	87	82	85	78	82	70	74	77	0
10	✓	✓	✓	74	70	61	61	52	40	44	44	57	70	72	85	85	85	91	89	80	74	89	97	95	108	91	82	75	0
11	✓	✓	✓	78	70	57	52	48	44	42	52	63	67	74	72	74	85	91	95	82	89	80	89	123	104	102	108	77	0
12	✓	✓		106	102	110	89	63	N 27	N 4	−61	15	N 9	40	N 55	N 40	N 67	N 27	70	80	89	70	63	N 33	57	67	70	54	2
13				104	76	85	78	Z	Z	Z	Z	N 40	N 4	40	48	52	−13	N 22	65	N 22	40	52	N 44	31	48	N 31	N 18		2
14				91	44	44	N 27	N 4	−87	−128	−65	−95	—	—	—	—	—	—	—	—	—	—	—	—	40	46	48		2
15	✓	✓	✓	78	87	91	104	112	104	(108	108)	117	108	91	82	87	88	91	91	78	87	87	108	117	108	123	133	99	0
16	✓	✓	✓	133	139	139	128	131	104	91	93	80	74	78	87	91	82	85	91	91	91	89	91	89	91	91	104	98	0
17	✓	✓		[144	160	168	139]	117	100	85	78	82	102	100	[108	117	112	108	104	112	108	114	144	152	172	180	180]	124	0
18				[187	203	187	168	152	144]	114	104	97	87	89	93	93	72	78	70	91	N 91	−59	55	Z	−93	−57	N 46		2
19				91	114	95	N 85	87	27	−57	−59	−33	Z	Z	−52	−48	−25	N 4	40	44	48	46	63	61	N 35	N 27	N 20		2
20	✓	✓		[33	37	44	52	44	40	70	133]	100	87	100	91	95	108	100	106	104	110	114	(117	121)	121	128	140	91	0
21	✓	✓		156	160	172	168	156	137	133	149	128	78	65	74	87	100	100	104	112	112	[125	152	178	144]	126	95	125	0
22				N 42	192	N 85	Z	—	—	—	—	—	—	57	48	74	44	N 31	44	44	44	44	57	67	76	65	67		1
23	✓	✓	✓	57	76	70	78	72	59	50	46	50	46	44	57	52	52	74	89	100	100	104	108	121	117	78	74	74	0
24	✓	✓	✓	70	74	61	57	70	65	57	61	52	48	52	65	70	74	80	85	72	82	91	87	91	95	112	91	73	0
25	✓	✓		70	72	80	91	76	59	50	42	35	29	42	52	63	70	80	72	74	74	100	112	104	100	102	95	73	0
26	✓	✓		102	114	119	104	95	87	82	52	57	61	70	76	70	78	70	78	104	112	123	97	104	N114	89	N 91	90	1
27	✓	✓		104	104	140	N 93	N 85	85	119	117	76	70	76	78	80	91	87	95	91	95	100	108	108	121	126	128	99	1
28	✓	✓		[144	173	80	126	162	323	331	162	91]	72	65	67	70	74	74	72	70	65	61	65	82	N 87	N 95	175]	116	1
29	✓	✓		[78	87	74	61	87	74	65	95]	91	87	82	87	87	87	95	95	104	[125	137	149	128	172	175	172]	104	0
30	✓	✓		[187	180	164	137]	126	123	108	100	104	91	93	106	104	112	112	121	[125	151	195	242	204	189	183	144]	142	0
31	✓	✓		112	104	102	102	70	N 40	70	67	85	89	85	87	85	95	[95	87	91	142	151	93]	91	108	106	104	94	1
MEANS * 26 DAYS				118	119	116	116	117	112	107	92	87	84	86	88	89	93	97	102	105	112	121	121	125	129	122	122	108	
MEANS † 26 DAYS				118	119	116	116	117	112	107	92	87	84	86	88	89	93	97	102	105	112	121	121	125	129	122	122	108	
MEANS ‡ 9 DAYS				86	90	83	78	78	67	64	68	71	69	70	75	78	78	91	95	91	88	89	93	100	98	90	92	83	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 158

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	738.5	22.9	73	34.3	18.0		9.0	SSW	1	SSW	2	SW	5	SSW	6	ASt; Cu; StCu	1- 3	Cu; StCu	1- 3	Very smoky all day; distant lightning in evening
2	740.9	22.4	55	33.0	14.6		10.9	SSW	4	SE	11	S	3	S	9	ASt	1- 3		0	Hazy all day
3	744.2	19.5	49	30.8	14.0		10.1	ESE	15	ESE	17	ESE	12	SE	6	Ci; CiSt; ASt	4- 6	Ci; CiSt; ASt	4- 6	Trace of smoke in the air
4	743.3	21.4	34	31.3	14.9		10.4	ESE	7	E	13	E	12	ESE	4	Ci; CiSt; CiCu	7- 8	Ci; CiSt; CiCu	6- 1	Distant lightning in evening
5	740.2	23.6	30	29.2	18.4		0.5	ENE	11	NE	13	NE	4	ENE	1	Ci; CiSt; ASt	10- 7	ASt; ACu; StCu	7- 8	Lightning in evening
6	737.2	25.0	37	34.1	16.3	T	3.4	NNE	3	NNE	4	W	13	W	2	Ci; CiCu; CiSt; ACu	7-10	Ci; CiCu; CiSt; ACu	7-10	Lightning to NW and S in evening; rain at night
7	738.3	19.2	81	26.1	17.3	0.04	5.0	..	0	SSW	7	SSW	10	S	4	Cu; FrCu; CuNb	7-10	Cu; FrCu; CuNb	7-10	Rain in early hours
8	739.8	17.4	47	24.1	7.2	T	10.3	SSW	1	SSE	5	SSW	5	SSW	2	Cu; FrCu	7- 9	Cu; FrCu	4- 6	
9	738.6	16.8	57	26.4	6.3		10.6	..	0	..	0	WSW	5	SW	5	FrCu	0- 1		0	Dew early, possibly fog
10	740.2	19.9	57	26.1	9.4		7.0	..	0	..	0	SW	6	SSW	4	ACu; Cu; FrCu	7-10	ACu; Cu; CiSt	4- 6	Overcast with CiSt in evening
11	742.6	16.2	67	22.4	9.7		0.0	SSW	1	ESE	2	ESE	1	SSE	1	ACu; ASt	7-10	ACu; ASt	7-10	
12	738.5	16.5	95	25.7	14.3	0.30	0.0	SSE	1	ENE	2	NE	12	NNW	2	ACu; ASt; Nb	10	ACu; ASt; Nb	10	Rain at intervals since early hours
13	735.3	18.7	94	20.8	16.5	0.39	0.0	NW	17	W	9	..	0	..	0	CuNb; Nb	10	CuNb; Nb	10	Light rain continuously
14	735.5	16.7	99	18.1	16.3	0.70	0.0	..	0	SE	1	SSE	4	SSW	1	Cu; CuNb; Nb	10	Cu; CuNb; Nb	10	Raining almost continuously
15	739.2	17.9	76	24.2	12.0	0.55	8.3	SSW	3	S	6	SSE	4	SSW	6	Cu	4- 7	Cu	4- 6	
16	739.2	18.0	62	25.2	10.4		10.0	S	2	S	2	SW	7	SSW	7	StCu; ACu	1- 6	ACu; ASt; CiCu	7- 8	Dew early
17	742.0	17.1	57	24.3	12.0		10.2	S	8	SSE	12	SE	9	SSW	6	Ci; CiSt; CiCu; ACu	4- 6	Ci; CiSt; CiCu; ACu	4- 6	
18	742.3	16.5	64	21.6	13.8		0.1	SE	11	ESE	15	ESE	12	ESE	13	ACu; ASt; Cu	10	Cu; StCu; CuNb	10	
19	736.3	15.8	93	17.5	14.5	0.67	0.0	E	16	E	13	E	10	E	5	CuNb; Nb	10	CuNb; Nb	10	Rain in am and part of pm
20	733.2	21.0	79	28.9	16.0	0.34	7.5	..	0	WNW	1	W	3	S	4	Cu; FrCu	7- 8	Cu; FrCu; CiSt	7- 8	Fog early
21	735.9	17.4	92	26.8	15.5		3.4	S	3	SSE	5	ESE	10	SE	10	Nb	10	Cu; FrCu; CiSt	9- 4	Heavy rain at night
22	736.4	17.1	93	21.4	16.2	0.74	0.0	SE	10	SE	12	SE	9	SE	7	Nb	10	Nb	10	Frequent light showers
23	736.9	19.4	93	26.7	17.2	0.01	2.0	SE	5	ESE	4	S	1	SSE	2	Nb	9-10	Cu; FrCu	7- 8	Fog early; clear at night
24	738.0	24.0	81	31.0	19.5		1.3	SE	2	ENE	4	ENE	4	SW	2	Nb; St	0	Cu; CuNb	7- 8	
25	738.7	22.0	92	32.8	19.3	T	2.8	..	0	..	0	NW	1	SSW	2	Nb; CuNb	10- 4	Ci; CiCu	4- 6	Light misty rain in am
26	739.6	25.5	77	31.8	19.7		4.2	..	0	..	0	SW	3	SSW	7	Cu; CuNb	10- 7	Cu; FrCu; CiCu	4- 6	Cloudy at night
27	739.1	22.1	89	29.9	19.7		5.2	S	4	S	3	S	2	SSW	7	Cu; FrCu; CuNb	10- 4	FrCu; Cu	1- 3	Heavy mist early; frequent lightning in evening
28	737.2	23.0	82	38.8	18.4		9.0	S	2	SSE	1	NW	8	SW	3	CiSt; Ci; Cu	1- 3	CiSt; ACu; ASt	4- 8	Fog until 9h
29	740.5	21.0	67	25.4	18.1	T	2.6	SSW	6	S	14	S	6	S	8	Ci; ACu; ASt; Cu	9-10	Ci; ACu; ASt; Cu	9-10	Mist or light rain early
30	743.7	17.4	55	24.4	14.8		1.5	ESE	2	E	14	ESE	11	SE	5	ACu; ASt	7-10	ACu; ASt	7-10	Possibly faint smell of smoke in evening
31	741.1	22.7	46	30.0	17.5		2.5	E	9	ENE	8	ENE	7	..	0	ACu; ASt; StCu	7-10	ACu; ASt; StCu	7-10	Smoke at 14h; few drops rain at 20h5
SUM						3.74														
MEAN	739.1	19.8	70	27.2	15.1		4.8		4.6		6.5		6.4		4.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 159

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[73	75	72	74	46	30	29	30	30	30	32	42	43	(33)	43	45	41	42	41	39	45	46	46	47]	45	0
2	✓	✓		[47	52	49	42	32	29	35	65	96	84	73	67	72	87	88	78	73	61	50	59	47	52	49	52]	60	0
3	✓	✓		[49	61	65	74	99	103]	127	144	129	113	116	96	98	88	91	[87	75	64	57	61	56	61	74	82]	86	0
4	✓	✓		[89	116]	141	148	149	159	166	156	178	186	194	212	196	170	159	141	162	168	[155	105	99	85	126	145]	150	0
5	✓	✓		177	200	231	254	271	272	265	261	222	211	211	211	[152	108	144	168]	197	197	193	208	222	235	241	251	213	1
6	✓	✓	✓	265	247	227	244	272	285	300	300	304	289	246	227	209	170	[91	74	133]	141	144	137	130	141	156	143	203	0
7	✓	✓		131	129	130	133	131	124	113	102	115	127	126	122	133	131	130	119	105	123	133	131	141	140	144	148	128	1
8	✓	✓	✓	156	159	174	197	194	188	185	174	168	159	167	164	154	(138)	140	145	155	152	154	155	159	162	182	183	165	0
9	✓	✓	✓	149	147	170	163	182	186	190	182	174	173	167	155	148	145	145	138	140	140	141	133	145	154	164	158	158	0
10	✓	✓	✓	168	170	197	209	227	266	299	316	252	185	170	156	158	144	129	133	138	138	129	112	131	136	159	170	179	0
11	✓	✓	✓	188	208	218	244	260	265	286	242	211	179	177	160	156	134	117	105	130	130	144	[116	78	127]	122	122	172	0
12	✓	✓		134	131	141	171	197	190	≷198	177	190≷	200	189	168	155	141	133	141	141	140	160	173	182	≷160	115	117≷	160	2
13	✓			≷140	109	91	80	75	60	119	143≷	166	171	174	174	168	156	163	174	167	201	174	182	192	188	183	≷183≷	151	2
14				216	238	215	≷212	198	259	223	127	78	119≷	—	—	—	—	—	—	—	174	197	190	185	186	186	175		2
15	✓	✓	✓	173	156	152	148	145	141	137	129	140	145	147	155	155	(134)	130	130	117	99	105	101	115	129	127	116	134	0
16	✓	✓	✓	113	122	126	129	129	145	159	163	185	197	181	159	145	133	127	133	131	134	145	158	162	159	144	141	147	0
17	✓	✓		[103	102	116	136]	147	158	173	186	164	127	112	[99	88	78	87	74	63	74	80	72	75	63	70	74]	105	0
18	✓			[75	87	92	105	106	120]	145	159	160	166	158	144	133	129	134	≷130	130	120	120	119	85	84	102	131≷	122	2
19	✓			145	160	185	198	208	201	≷173	160	173	200	183	225	204	223	255≷	247	235	225	228	240	251	≷263	302	363≷	219	2
20	✓	✓		[327	299	297	286	299	260	215	216]	241	194	185	178	177	174	171	182	173	168	170	170	174	188	190	171	213	0
21	✓	✓		144	144	144	151	155	158	160	162	154	183	211	209	186	158	149	141	140	133	[141	129	108	105]	141	129	151	0
22	✓			151	141	≷160	74	152	221≷	272	276	215	198	186	189	196	(200	215)	236	269	271	260	232	215	233	238	247	210	1
23	✓	✓	✓	251	261	295	276	276	301	307	300	299	282	276	267	261	259	236	216	201	207	185	173	155	183	226	249	248	0
24	✓	✓	✓	259	289	276	254	272	269	275	292	299	263	249	237	223	221	209	204	211	185	185	188	171	158	166	171	230	0
25	✓	✓		194	225	213	200	236	265	290	286	285	≷227	238≷	217	213	211	201	185	166	158	144	140	155	155	159	159	205	0
26	✓	✓		162	162	160	171	170	168	174	201	231	232	215	209	202	192	188	182	170	156	141	130	130	140	133	117	172	1
27	✓	✓		113	102	105	119	130	129	103	116	143	154	167	193	189	207	207	204	196	189	197	188	173	168	170	171	160	1
28	✓	✓		[143	98	82	65	77	68	73	91	147]	223	236	225	202	205	198	201	211	211	212	213	198	171	145	108	158	1
29	✓	✓		[91	77	91	160]	174	182	141	129	119	126	127	130	131	(133)	131	133	123	[99	78	74	88	81	74	77]	115	0
30	✓	✓		[70	73	89	113]	123	116	145	156	120	148	159	143	130	117	120	126	[122	81	80	47	74	88	91	134]	111	0
31	✓	✓		159	182	200	211	213	212	222	223	207	193	183	185	182	182	[105	60	151	74	98	145]	173	185	200	208	173	1
MEANS * 30 DAYS				148	149	156	161	172	176	183	185	184	179	175	171	162	153	148	144	149	143	141	138	138	141	148	152	158	
MEANS † 26 DAYS				151	153	160	168	177	180	183	185	185	178	175	169	160	150	141	136	141	133	133	129	130	134	139	140	156	
MEANS ‡ 9 DAYS				191	195	204	207	217	227	238	233	226	208	198	187	179	164	147	142	151	147	148	141	138	150	161	161	182	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 160

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[46	45	48	49	31	23	17	23	26	25	23	26	33	(28	36)	37	32	36	27	28	28	26	36	34]	32	0
2	✓	✓		[36	28	34	27	25	23	25	54	85	73	62	50	56	75	74	63	60	50	39	44	36	38	38	36]	47	0
3	✓	✓		[38	50	60	63	81	94]	111	130	125	111	111	95	94	86	86	[83	74	65	51	52	53	53	63	72]	79	0
4	✓	✓		[76	98]	119	120	129	137	144	143	165	177	195	211	191	164	152	129	139	144	[132	85	72	69	106	132]	135	0
5	✓	✓		157	180	218	245	259	256	254	258	219	213	225	213	[136	106	127	149]	186	189	≷159≶	176	188	187	203	217	197	1
6	✓	✓	✓	235	213	210	221	235	270	299	290	314	295	264	244	224	173	[81	70	114]	121	123	120	116	113	129	111	191	0
7	✓	✓		99	96	101	98	108	108	89	94	109	118	118	111	122	123	119	103	83	99	106	105	105	93	82	86	103	1
8	✓	✓	✓	111	119	128	139	148	130	128	141	144	147	152	154	156	152	(135)	132	134	142	129	118	119	120	142	143	136	0
9	✓	✓	✓	116	111	116	144	158	171	169	147	152	146	142	148	152	156	154	136	129	123	122	112	119	118	123	123	137	0
10	✓	✓	✓	128	136	161	187	200	245	281	303	249	178	164	164	155	136	122	135	134	123	106	90	107	107	115	130	161	0
11	✓	✓	✓	154	175	183	192	229	233	237	204	186	170	178	156	144	129	107	93	111	113	120	[95	61	95]	95	86	148	0
12	✓	✓		107	109	108	146	164	185	≷210	229	184≶	189	178	157	154	137	129	121	120	121	143	156	166	≷154	122	118≶	150	2
13	✓			≷122	120	96	94	120	134	121	143≶	150	172	158	157	155	157	164	159	152	158	140	152	157	155	155	≷155≶	144	2
14				176	211	186	≷173	193	200	199	188	228	192≶	—	—	—	—	—	—	—	164	179	169	163	154	143	139		2
15	✓	✓	✓	130	118	101	96	93	98	94	109	125	126	140	141	135	133	(120)	118	107	95	95	86	93	107	101	96	111	0
16	✓	✓	✓	93	85	78	86	93	115	130	141	164	169	158	144	132	121	120	120	118	120	120	128	133	132	129	113	123	0
17	✓	✓		[80	82	87	111]	123	134	156	163	150	113	114	[98	82	75	81	72	62	70	73	59	61	57	59	61]	93	0
18	✓			[63	80	83	90	99	112]	142	148	161	147	144	132	126	130	135≶	132	133	121	129	120	137	161	184	142≶	127	2
19	✓			132	144	177	191	188	194	≷242	266	307	219	308	284	275	243	250≶	224	212	202	211	204	200	≷232	269	347≶	230	2
20	✓	✓		[290	251	236	224	245	225	149	166]	208	169	156	165	163	165	164	159	142	141	134	132	137	143	141	126	176	0
21	✓	✓		109	106	111	113	118	115	122	129	128	166	204	189	169	147	141	129	119	121	[121	107	87	90]	111	118	128	0
22	✓			150	112	≷152	374	279	203≶	275	259	204	178	169	165	170	191	(210)	225	269	271	251	216	200	211	213	217	215	1
23	✓	✓	✓	234	243	268	249	243	268	282	277	275	258	251	235	225	224	211	191	165	166	152	146	120	162	201	225	220	0
24	✓	✓	✓	236	244	246	234	234	246	257	278	269	235	221	214	202	199	179	175	178	162	156	157	137	122	130	136	202	0
25	✓	✓		143	177	173	169	202	244	269	261	271	≷225	221≶	200	199	197	187	158	141	130	121	108	120	121	122	121	178	0
26	✓	✓		111	108	108	111	133	139	151	187	210	200	178	178	179	170	168	164	146	134	121	114	109	116	111	99	144	1
27	✓	✓		93	86	87	100	107	107	85	96	130	141	146	162	175	177	180	178	171	169	168	152	143	141	134	129	136	1
28	✓	✓		[108	73	62	46	49	44	48	73	127]	199	212	210	205	201	191	200	200	192	188	188	166	[147	121	80]	139	1
29	✓	✓		[65	51	62	146]	144	152	121	118	105	111	119	121	122	130	(114)	109	99	[74	61	62	74	60	57	60]	97	0
30	✓	✓		[61	63	83	105]	109	113	128	144	115	147	152	129	120	109	109	119	[108	81	68	43	61	74	78	118]	102	0
31	✓	✓		143	165	178	180	187	196	194	204	196	186	178	165	166	165	[92	56	134	59	76	119	130]	144	177	177	153	1
MEANS * 30 DAYS				122	122	129	145	151	157	164	173	175	167	168	161	154	147	138	131	132	126	121	116	114	118	125	127	141	
MEANS † 26 DAYS				123	124	130	138	148	157	160	168	170	165	164	157	150	141	130	123	123	117	112	107	105	107	113	113	136	
MEANS ‡ 9 DAYS				160	160	166	172	181	197	209	210	209	192	186	178	169	158	137	130	132	129	125	117	112	120	129	129	159	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 161

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	106	108	111	108	91	78	70	82	87	82	95	52	48	91	91	74	82	78	82	70	80	100	113	104	87	0
2	✓	✓		113	118	111	120	106	87	102	76	70	76	52	N 52	57	61	65	57	57	70	65	65	65	74	82	74	78	1
3	✓	✓		⌈132	203	156	120	132	91	70⌋	108	128	102	87	91	78	70	72	80	78	72	80	97	106	89	109	109	102	0
4				116	108	109	74	48	63	50	74	89	91	93	91	97	100	102	102	111	111	113	118	124	⌈134	164⌋	—		0
5				—	—	—	—	—	91	100	111	104	111	132	120	106	104	104	111	111	136	⌈164	215	261	241	211	181⌋		0
6				162	189	162	97	151	-2	-26	Z	Z	Z	Z	Z	111	—	—	—	—	—	—	—	—	108	100	82		2
7	✓			95	91	108	108	108	78	74	78	65	65	65	70	78	91	91	100	97	100	72	97	100	91	91	78	87	0
8	✓	✓		65	57	61	57	52	52	48	48	48	57	61	65	78	78	78	100	100	89	76	63	65	61	70	[40⌋	65	0
9	✓	✓		[48⌋⌈	78	82	78	120	78	87	136	120	100⌋	70	74	74	87	82	91	⌈128	180	175	124	190	241	263	239⌋	123	0
10	✓	✓		⌈195	181	162	223	199	154	142	134	109⌋	82	82	91	91	93	95	95	93	61	⌈124	269	321	317	335	338⌋	166	0
11	✓	✓		⌈284	247	272	258	241	211	171	152⌋	104	85	93	87	89	109	106	95	100	102	⌈140	231	143	168	183	203⌋	161	0
12	✓	✓		⌈218	207	241	223	211	162	143	120⌋	95	78	65	65	78	78	91	104	100	91	87	89	⌈116	178	190	156⌋	133	0
13	✓	✓		⌈157	152	134	116⌋	91	78	61	61	63	63	65	63	70	74	74	78	78	74	63	65	72	70	95	78	83	0
14	✓	✓	✓	78	74	61	57	70	65	52	70	87	95	95	104	104	100	104	104	104	85	50	34	42	63	57	52	75	0
15	✓	✓		57	57	63	57	50	50	46	48	59	70	65	70	82	82	100	102	95	[65	91	59	59⌋⌈	164	166	193⌋	81	1
16	✓	✓		⌈171	134	104⌋	85	74	59	50	55	55	67	78	85	95	95	100	100	95	72	⌈148	230	193	154	175	150⌋	109	0
17	✓	✓		⌈136	164	122⌋	93	85	67	55	57	61	63	74	76	85	89	95	⌈111	126	228	230	203	164	150	178	228⌋	122	0
18				⌈303	247	291	302	302	310	Z+	Z+	330	134⌋	91	80	72	76	91	89	93	⌈ 72	50	61	80	152	190	203⌋		0
19	✓	✓		⌈129	109⌋	72	55	57	50	52	50	59	78	87	108	95	78	85	95	⌈ 74	30	N 30	42	50⌋	61	72	93	71	1
20	✓	✓	✓	74	57	65	57	59	46	46	50	57	70	82	80	89	82	85	85	78	78	48	52	57	61	65	70	66	0
21	✓	✓	✓	74	74	70	65	57	61	48	52	74	74	87	100	93	93	95	93	106	82	63	55	95	122	118	124	82	0
22	✓	✓	✓	128	120	113	95	89	72	63	63	67	78	85	87	100	100	91	82	108	74	⌈ 65	140	104⌋	100	82	128	93	0
23	✓	✓	✓	116	102	113	108	128	109	78	87	111	87	82	78	82	93	91	111	129	136	132	120	104	120	124	100	106	0
24	✓	✓		78	70	65	61	48	44	34	44	57	89	102	97	100	104	91	111	122	⌈150	164	148⌋	132	138	132	138	97	0
25	✓	✓		104	124	138	111	102	87	80	111	111	122	134	122	108	122	111	97	93	78	⌈189	173	178	175	143	129⌋	123	0
26	✓	✓	✓	⌈132	134	150	132	91	89	109	108⌋	87	76	87	78	74	67	76	78	89	89	89	80	70	65	61	70	91	0
27	✓			57	87	91	91	70	111	N 4	82	124	120	100	95	91	82	87	82	91	100	87	70	63	61	67	78	83	1
28	✓			87	67	52	44	44	40	34	40	34	44	61	74	78	78	74	82	78	91	74	78	61	87	87	82	65	0
29	✓			80	78	80	80	80	72	59	65	76	74	85	85	93	106	111	106	104	87	87	87	104	108	128	136	90	0
30	✓	✓	✓	136	124	128	111	111	104	91	82	70	70	[65⌋	70	78	74	74	78	78	93	104	126	132	129	122	127	99	0
31																													
MEANS * 26 DAYS				117	116	112	104	99	84	72	79	80	80	81	82	84	88	89	92	96	94	101	110	110	121	127	128	98	
MEANS † 22 DAYS				124	122	118	109	103	86	77	82	81	80	82	82	84	87	89	92	96	94	104	115	115	127	133	134	101	
MEANS ‡ 8 DAYS				106	99	101	92	87	78	70	74	80	79	85	81	84	88	88	88	97	89	79	85	86	95	93	97	88	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VAL

TABLE 162

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	738.1	25.6	38	34.2	20.1		4.4	NE	3	NE	10	N	6	NW	7	ACu; ASt	7- 4	ACu; ASt	1- 3	
2	737.7	22.1	84	25.6	18.7	T	1.6	NNW	11	NW	9	WNW	14	WNW	6	CuNb; Nb	7-10	CuNb; Nb	7-10	Occasional fine showers
3	741.2	19.8	91	26.0	12.6	0.05	3.9	SW	1	SW	2	SW	5	SSW	5	CuNb; Nb	7-10	CuNb; Nb	4- 6	A few light showers in am
4	744.7	17.8	60	24.2	12.6		8.3	SSW	3	SSW	10	SSE	6	..	0	ACu	4- 6	ACu	1- 3	
5	745.6	19.5	52	27.1	15.5		9.8	S	5	ESE	11	ESE	10	..	0	FrACu	1- 3	ACu; CiSt	4- 8	Lightning in NE at night
6	744.4	17.6	86	25.0	14.0	0.18	4.4	ESE	6	E	5	ENE	13	SSE	2	ACu; CuNb	10- 7	ACu; ASt	6- 1	Heavy thunderstorm in early hours; lightning am and evening
7	744.0	21.5	68	32.8	15.7	0.02	10.4	SSE	2	ESE	2	NNE	4	..	0	ACu	1- 3	ACu	1- 3	Dew early; slight smell of smoke in evening
8	744.7	23.4	60	36.1	15.4		6.1	..	0	..	0	..	0	..	0	ACu; CiCu	2- 6	ACu; CiCu	4- 6	Dew early; clear at night
9	745.3	26.6	49	36.2	15.2		9.4	..	0	..	0	NNW	1	SSW	1	ACu	0- 1	ACu	0- 1	Smoky in am and pm; lightning in evening
10	746.6	24.6	54	36.3	15.0		7.6	..	0	..	0	..	0	SSW	1	ACu	3- 6	ACu	4- 6	Smoky all day
11	747.0	26.2	42	34.4	12.2		8.5	SSW	3	SE	3	S	1	S	4	CiCu; ACu	4- 6	ACu	1- 3	Cloudless in evening; suggestion of smoke in air
12	747.5	22.9	48	31.8	12.0		10.0	SSW	1	..	0	S	2	SSE	3		0		0	Possibly smoky in E
13	745.6	22.8	50	30.6	13.2		10.2	SSE	2	ENE	4	ENE	3	E	1	Ci; CiSt	1- 3	Ci; CiSt	4- 8	Distant fires in ESE and SSE
14	743.9	21.2	39	31.2	11.0		10.1	NNE	1	NE	6	N	1	..	0	CiSt	0- 1	CiSt	0- 1	
15	743.2	21.4	41	32.5	10.5		8.5	..	0	NNE	1	..	0	S	1	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	Fires on all sides
16	741.7	22.5	37	33.0	10.9		9.8	..	0	NNE	1	..	0	SSW	3	Ci; CiSt	1- 4	Ci; CiSt	1- 3	Fires in various directions
17	741.3	22.0	32	32.6	11.8		10.0	..	0	..	0	NW	2	SSW	1		0		0	Smoky in pm
18	742.8	17.0	89	33.2	12.3	T	8.6	SW	1	..	0	NNE	2	..	0	CiCu; CiSt	1- 3	CiCu; CiSt	1- 3	Heavy fog early; fire nearby 17^h–18^h
19	743.0	24.1	23	32.3	11.3		9.3	..	0	NNE	2	NE	3	..	0		0		0	Fire in W in pm and evening
20	745.2	22.7	29	31.5	8.2		9.3	..	0	NE	1	NE	2	..	0	CiSt	1- 3	CiSt	1- 3	
21	746.9	19.4	38	27.6	7.3		8.5	..	..	NE	2	E	3	..	0	Ci; CiSt	10- 4	Ci; CiSt	4- 6	Fire nearby in late pm
22	744.9	19.0	46	28.7	5.8		9.9	..	0	NNE	2	..	0	SSW	2		0		0	Suggestion of smoke in air
23	742.2	19.0	50	28.4	6.2		9.4	..	0	..	0	WNW	3	SW	1	StCu	0- 1	Cu	1- 3	
24	743.4	18.2	69	24.0	9.0		3.7	..	0	..	0	W	1	SSW	1	Cu; StCu	4- 6	Cu; StCu	4- 6	Dew early
25	744.1	18.1	66	25.9	7.8		7.2	SSW	1	..	0	..	0	SSW	2	CiSt; ASt; ACu	4- 6	CiSt; ASt; ACu	7- 8	
26	741.3	19.4	57	29.8	13.1		8.3	..	0	..	0	NW	10	..	0	CiSt; CiCu	4- 6	CiSt	4- 6	Dew early
27	739.9	17.8	92	21.7	5.8	0.10	3.6	W	1	WSW	4	WSW	18	..	0	CuNb; Nb	10	Cu; CuNb	9- 4	Rain in early am
28	746.7	12.9	90	22.9	8.6		1.9	..	0	..	0	S	1	SSW	1	Cu	7-10	Cu	7- 8	Dew early
29	746.5	16.7	77	23.4	10.0		6.1	SSW	1	..	0	ESE	3	S	2	Ci; ASt; FrCu	4- 6	Ci; ASt; FrCu	4- 6	Dew early
30	743.5	19.9	48	27.1	8.5		9.8	S	1	..	0	..	0	S	3	ASt; CiSt	1- 3		0	
31																				
SUM						0.35														
MEAN	743.8	20.7	57	29.5	11.7		7.6		1.4		2.5		3.8		1.6					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 163

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	213	211	204	209	212	222	230	224	209	168	136	155	143	140	144	158	164	165	153	153	154	155	147	164	176	0
2	✓	✓		161	169	169	158	155	153	158	165	161	160	166	165	160	182	189	183	173	178	173	173	166	183	186	191	170	1
3	✓	✓		⌈189	168	171	182	183	164	180⌋	160	157	173	173	183	168	182	182	168	168	173	183	168	157	175	168	155	173	0
4	✓			160	158	142	150	155	154	158	175	158	143	129	124	111	95	91	100	89	91	92	91	113	⌈125	111	100⌋	126	0
5	✓			⌈ 96	112	125	177	129⌋	151	144	160	169	129	118	126	158	(118)	115	126	113	89	⌈ 74	73	59	73	85	112⌋	118	0
6				138	160	166	172	≷164	166	78	122	184	195	179≷	195	187	186	184	191	195	200	201	⌈168	172⌋	—	—	—		2
7				—	—	—	—	—	—	—	—	—	266	247	218	189	169	164	164	144	131	146	144	144	166	173	208		0
8	✓	✓		240	261	273	287	302	286	300	289	300	272	235	227	197	179	183	178	172	186	194	229	236	239	232	266	240	0
9	✓	✓		268	⌈194	147	136	113	140	134	108	140	171⌋	204	215	216	194	183	182	⌈118	101	91	127	71	64	59	69⌋	144	0
10	✓	✓		⌈ 73	76	81	73	74	83	83	85	109⌋	142	136	130	139	143	146	134	129	144	⌈ 92	39	34	44	45	51⌋	95	0
11	✓	✓		⌈ 55	59	56	64	69	74	83	104⌋	144	162	149	146	130	127	112	115	103	104	⌈ 65	27	58	69	65	67⌋	92	0
12	✓	✓		⌈ 60	71	73	74	77	85	89	108⌋	140	172	202	195	169	(130)	120	113	104	120	113	112	⌈ 91	83	74	87⌋	111	0
13	✓	✓		⌈111	125	140	168⌋	195	206	236	273	253	232	226	227	202	179	175	168	168	176	187	183	195	215	198	209	194	0
14	✓	✓	✓	236	257	268	261	229	231	240	234	216	194	134	118	125	131	138	143	153	160	186	227	221	226	232	240	200	0
15	✓	✓		249	263	286	294	286	272	194	314	281	227	212	186	168	168	157	160	168	183	⌈140	150	155	87	77	72⌋	198	1
16	✓	✓		⌈ 99	126	173⌋	212	234	266	311	323	306	273	215	195	183	184	171	146	134	153	⌈104	45	59	67	64	67⌋	171	0
17	✓	✓		⌈ 76	87	118⌋	182	201	225	257	295	305	296	262	240	222	215	206	⌈136	74	58	51	63	99	115	96	100⌋	166	0
18	✓			⌈ 87	73	51	59	53	53	44	44	76	143⌋	198	275	221	217	182	168	154	⌈125	225	217	198	153	101	112⌋	135	0
19	✓	✓		⌈168	202⌋	275	320	313	326	321	326	307	229	195	136	143	(143)	124	138	140	182	⌈166	146	131	160	175	180⌋	206	1
20	✓	✓	✓	⌈197⌋	261	266	287	299	326	339	335	311	254	204	193	173	187	194	197	198	147	218	222	245	254	264	266	243	0
21	✓	✓	✓	254	247	261	286	301	302	333	350	295	276	239	197	202	213	212	202	183	186	212	175	161	146	175	173	233	0
22	✓	✓	✓	183	205	217	250	264	300	334	339	302	250	215	195	187	169	173	175	183	197	⌈193	108	126⌋	139	154	130	208	0
23	✓	✓	✓	153	184	178	183	149	150	189	204	168	208	209	201	184	171	164	140	126	131	129	143	154	168	173	201	169	0
24	✓	✓		204	236	262	279	301	329	376	425	353	254	183	172	168	169	171	168	153	⌈126	107	131⌋	164	160	160	164	217	0
25	✓	✓		180	172	168	187	212	155	205	184	182	175	158	166	161	160	160	168	168	172	⌈ 87	91	87	95	99	104⌋	154	0
26	✓	✓	✓	⌈111	112	103	101	117	111	104	131⌋	162	187	183	189	197	(186)	172	168	160	157	157	161	190	227	258	270	163	0
27				275	222	200	171	172	155	—	—	—	135	121	115	113	121	189	129	121	129	138	147	158	171	176	—		1
28				—	—	—	—	—	—	—	—	—	369	266	209	193	186	184	178	179	165	166	142	171	172	175	182		0
29				184	189	187	195	⌈129⌋	212	213	215	191	209	160	171	173	144	154	171	184	187	146	142	160	147	129	129		0
30	✓	✓	✓	130	135	157	160	175	197	217	243	275	245	238	218	213	212	211	197	202	171	166	134	138	144	151	138	186	0
31																													
MEANS * 25 DAYS				158	167	175	190	192	199	210	224	219	205	189	183	174	168	163	157	148	147	142	136	138	143	142	148	172	
MEANS † 22 DAYS				164	174	184	198	203	210	223	237	231	215	194	184	175	171	168	161	152	153	144	137	141	146	148	153	178	
MEANS ‡ 8 DAYS				185	202	207	217	218	230	248	258	242	223	195	183	178	176	176	172	171	164	177	165	174	182	194	198	197	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 164

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	170	169	153	156	158	174	184	188	181	153	131	153	146	137	141	154	148	151	146	146	141	144	133	138	154	0
2	✓	✓		141	145	143	139	138	143	143	144	154	154	164	170	178	179	179	168	160	156	153	151	155	168	174	172	157	1
3	✓	✓		⌈152	122	122	121	138	151	142⌋	114	122	141	148	158	145	155	155	145	146	144	150	138	133	145	135	119	139	0
4	✓			109	108	102	95	106	113	131	160	141	130	125	119	109	90	90	89	82	83	82	83	94	⌈98	84	74⌋	104	0
5	✓			⌈72	88	98	96	108⌋	126	131	146	155	130	120	119	150	127	(108)	112	103	80	⌈61	60	49	56	65	98⌋	102	0
6				120	129	84	89	—	—	≷223	155	159	184	138	166≶	169	176	177	176	175	177	185	⌈144	131⌋	—	—	—		2
7				—	—	—	—	—	—	—	—	—	248	226	200	174	155	152	142	125	114	115	110	112	136	153	177		0
8	✓	✓		199	231	237	241	258	265	277	259	272	244	223	211	184	162	155	141	141	155	154	188	179	198	199	236	209	0
9	✓	✓		232	⌈172	135	122	94	107	116	76	108	142⌋	179	199	207	178	167	152	⌈100	77	67	84	50	46	41	47⌋	121	0
10	✓	✓		⌈59	59	49	50	46	54	60	62	96⌋	122	120	118	120	127	123	114	97	122	⌈79	31	24	29	26	25⌋	76	0
11	✓	✓		⌈36	38	38	44	44	55	64	85⌋	136	154	145	141	119	106	97	98	94	88	⌈56	24	47	50	46	47⌋	77	0
12	✓	✓		⌈47	50	48	55	60	71	72	79⌋	127	146	178	176	153	143	(114)	98	98	96	92	89	⌈71	61	59	64⌋	94	0
13	✓	✓		⌈72	89	97	127⌋	164	188	210	244	259	239	238	224	198	170	167	156	153	154	163	155	146	164	144	174	171	0
14	✓	✓	✓	190	217	235	233	199	191	209	199	189	179	131	108	109	118	119	118	119	126	162	208	189	195	205	181	172	0
15	✓	✓		208	245	255	280	284	270	281	290	263	222	208	178	154	151	133	139	134	152	⌈112	129	145	64	61	49⌋	184	1
16	✓	✓		⌈76	102	148⌋	190	216	255	280	290	292	255	201	188	177	164	154	116	112	120	⌈88	35	43	56	48	59⌋	153	0
17	✓	✓		⌈55	62	94⌋	156	189	218	247	276	290	288	259	239	222	211	197	⌈125	65	40	37	50	70	83	53	59⌋	149	0
18	✓			⌈38	44	29	32	25	30	24	26	59	122⌋	175	206	208	196	158	143	125	⌈95	197	164	144	107	64	70⌋	103	0
19	✓	✓		⌈118	156⌋	240	291	288	302	298	291	286	207	177	115	120	138	(108)	106	112	172	⌈154	130	126	141	152	156⌋	183	1
20	✓	✓	✓	⌈166⌋	238	230	231	259	295	301	289	273	230	189	176	164	175	168	167	161	115	196	194	185	209	230	219	211	0
21	✓	✓	✓	199	219	227	240	253	276	304	301	266	255	223	180	190	207	198	185	161	163	189	154	129	115	120	145	204	0
22	✓	✓	✓	153	172	190	199	230	266	300	308	286	240	201	181	177	156	162	155	142	131	⌈162	84	120⌋	120	118	120	182	0
23	✓	✓	✓	131	141	134	139	125	144	151	148	130	176	189	198	178	167	154	129	110	101	89	84	94	108	119	167	138	0
24	✓	✓		161	197	201	261	280	311	338	368	331	205	156	141	134	143	141	123	119	⌈84	65	94⌋	110	102	108	113	179	0
25	✓	✓		131	129	119	141	166	164	166	133	153	151	131	128	133	129	133	141	125	120	⌈60	61	59	58	72	91⌋	121	0
26	✓	✓	✓	⌈86	84	80	86	97	101	85	116⌋	143	168	170	179	192	196	(177)	167	154	141	127	139	163	192	218	219	145	0
27				241	185	158	146	150	133	≷144	118≶	119	108	112	109	107	119	120	120	108	109	104	118	135	154	154	143		1
28				152	181	207	252	259	267	308	336	338	333	251	197	176	166	162	155	151	129	121	108	126	131	136	—		0
29				—	—	—	—	—	—	—	—	—	194	155	156	159	127	143	153	152	148	121	108	129	109	96	96		0
30	✓	✓	✓	100	110	108	131	141	163	185	198	226	217	228	208	199	188	188	164	167	146	137	115	106	114	100	100	156	0
31																													
MEANS * 25 DAYS				124	135	140	154	163	177	188	192	198	187	176	169	163	157	147	136	125	120	119	112	111	113	111	118	147	
MEANS † 22 DAYS				131	143	149	165	174	189	201	203	208	195	181	171	164	159	151	139	128	125	120	113	113	116	116	123	153	
MEANS ‡ 8 DAYS				149	169	170	177	183	201	215	218	212	202	183	173	169	168	163	155	145	134	151	140	141	150	155	161	170	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 165

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	139	144	128	128	107	103	85	88	85	76	85	82	88	105	98	98	90	78	92	107	119	131	140	133	105	0
2	✓	✓	✓	135	127	121	114	94	78	65	61	52	57	63	70	74	76	82	70	70	46	40	37	42	44	50	61	72	0
3	✓	✓	✓	61	61	57	57	46	44	42	46	55	61	72	88	88	92	92	96	96	70	65	65	44	52	65	65	66	0
4				70	61	48	44	40	N 31	40	57]	74	82	92	—	—	—	—	92	96	82	50	57	72	—	—	—		1
5				—	—	—	—	—	—	—	—	52	48	44	57	57	65	65	61	}N 22	82	N 78	82	125	Z	133}	148		1
6				144	159	117	}109	Z	} 187	159	152	113	121	105	92	92	105	109	125	109	88	88	88	82	105	109	96		1
7				76	[50	67	67	82	50]	59	55	46	[48]	} 61	48	52	N 46}	80	82	92	72	72	82	}Z	Z	Z	Z }		1
8			}	Z	Z	Z	Z	Z	Z	N175	Z	Z	Z	Z	N 22	N125	Z	109	121	101}	101	96	88	88	105	109	96		2
9	✓	✓	✓	117	96	92	92	88	78	65	70	74	78	70	74	61	65	70	82	82	78	70	88	76	88	82	74	80	0
10	✓	✓	✓	88	82	88	82	61	57	65	57	70	74	70	82	88	96	88	88	88	61	42	50	85	105	109	107	78	0
11	✓	✓	✓	103	90	70	78	85	72	70	67	(68	70	71)	72	78	82	88	88	78	63	59	61	52	57	55	55	72	0
12	✓	✓	✓	61	63	63	61	46	46	50	44	50	57	65	76	78	76	85	94	94	78	55	59	48	48	52	67	63	0
13	✓			61	52	61	67	59	50	50	48	48	44	48	67	72	72	78	88	96	98	74	72	67	80	92	98	68	0
14	✓			[119	139	107	105	127	80	76	78	50]	42	44	42	61	59	57	61	67	55	50	59	50	59	55	50	70	0
15				44}	40	37	29	40}	48	48	55	65	}N105	N 35	Z	159	Z	N 70	N 65	92	61	35	35}	65	70	78	74		1
16	✓	✓	✓	82	78	96	101	96	101	101	92	96	} 98	90}	85	85	85	90	107	128	139	121	113	131	128	121	101	103	0
17	✓			111	103	109	103	94	88	80	65	55	59	65	63	72	78	80	88	96	74	70	76	[107	164	159	137]	92	0
18	✓			[128	105]	88	90	82	88	80	72	63	59	70	82	80	88	101	101	88	78	88	109	[162	175	185	162]	101	0
19	✓			[139	109]	94	85	85	76	70	67	59	57	61	59	67	78	76	78	63	82	80	76	76	82	85	85	79	0
20	✓			96	80	96	94	82	65	57	61	52	52	48	44	35	61	61	70	78	[44	40	48	57	44	40	35]	60	0
21	✓	✓		[57	40	92	44	61	74	65	74]	} 63	N 65}	119	92	78	85	} 82	N 76}	114	113	96	109	113	109	96	88	84	1
22	✓	✓	✓	57	61	65	78	72	70	65	70	85	80	85	88	82	82	90	96	85	80	72	78	72	74	[61	48]	75	0
23				[48	52	59	57	57	48	52	61	67]	65	65	63	65	76	76	78	90	70	78	70	92	78	—	—		0
24				—	—	—	—	—	—	—	—	96	94	101	105	109	105	117	125	139	90	105	103	123	114	117	107		0
25	✓	✓	✓	96	105	107	101	90	85	80	78	(78	79	79)	78	85	80	76	82	80	82	85	80	80	90	85	82	85	0
26	✓	✓	✓	80	76	85	88	85	78	76	78	76	76	76	76	88	80	78	72	74	63	50	55	52	65	65	74	74	0
27	✓	✓	✓	65	61	61	48	57	57	48	57	74	82	88	92	92	96	101	88	74	57	48	52	59	61	59	57	68	0
28	✓	✓	✓	57	57	50	46	50	52	48	50	61	70	70	74	78	78	74	78	70	52	48	48	44	44	57	61	59	0
29	✓	✓		52	44	48	40	40	40	35	40	44	48	48	61	78	82	70	61	}N 61	61}	82	61	65	82	74	92	59	1
30	✓	✓	✓	65	57	52	74	52	52	40	48	57	52	61	82	94	101	109	96	109	88	82	70	74	121	137	105	78	0
31	✓	✓	✓	105	88	82	70	70	61	57	52	55	57	61	70	80	82	82	80	80	57	48	44	40	44	37	42	64	0
MEANS * 23 DAYS				90	83	83	80	75	69	64	64	64	65	70	74	77	82	83	84	85	74	68	70	75	85	85	82	76	
MEANS † 17 DAYS				84	78	80	77	71	68	62	63	67	69	75	79	82	85	86	85	87	74	68	69	70	79	79	77	76	
MEANS ‡ 15 DAYS				87	83	81	81	73	69	64	64	69	71	74	79	83	85	87	88	87	73	65	67	68	77	78	75	76	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } { = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALU

TABLE 166

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.
(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.6	16.5	67	25.6	8.5		8.7	S	2	SSE	1	S	1	S	3	Ci; CiSt	8- 4	Ci; CiSt	4- 6	Dew early
2	744.5	18.7	52	28.8	7.6		9.7	S	1	..	0	NE	1	..	0	CiSt; Ci	0- 1	CiSt	0- 1	Dew early
3	743.9	19.7	36	30.7	9.3		9.5	..	0	N	2	N	2	..	0		0		0	
4	742.7	20.7	72	27.0	8.1		7.3	..	0	SW	2	WSW	3	SSW	1	Cu	7- 8	ACu; CiCu	4- 6	Heavy fog early
5	740.8	14.9	88	20.8	8.9		0.0	..	0	..	0	..	0	NW	13	ACu; ASt	10	ACu; StCu; CuNb	10	Dew early; rain in pm and evening; lightning in evening
6	736.7	18.1	76	20.3	15.0	0.08	3.9	NNW	5	W	12	WSW	16	..	0	Cu; CuNb	5- 8	Cu; CuNb	7- 8	Fine rain at intervals
7	741.7	13.1	86	19.5	6.5	0.01	3.4	..	0	N	1	NW	10	NNW	2	St; Nb	7-10	St; Nb	7-10	Probably fog early; frequent fine showers
8	739.4	11.9	90	16.2	9.5	0.70	4.0	WSW	6	SW	6	SSW	16	SSW	4	CuNb; Nb	7-10	CuNb; Nb	7-10	Heavy rain in early hours; frequent showers all day
9	745.3	13.7	73	18.9	8.7	0.13	2.0	..	0	S	1	S	4	S	2	St; Cu	7- 9	St; Cu	7- 8	
10	747.1	14.1	68	19.5	10.4		7.2	..	0	ESE	1	SSE	4	SSE	1	CiSt; FrCu	9- 4	CiSt; FrCu	4- 6	Dew early
11	747.2	13.5	69	23.3	3.3		9.1	..	0	NE	2	WNW	1	..	0		0		0	Dew early
12	744.7	14.3	60	25.3	3.9		9.2	..	0	..	0	NNW	5	..	0	ASt	0- 1		0	Dew early
13	741.4	15.5	58	26.8	4.0		9.2	..	0	N	1	NW	12	..	0		0		0	Dew early
14	741.2	14.1	91	25.8	8.6		2.3	..	0	N	1	NNE	1	SW	2	ACu	7-10	ACu	4- 6	Fog early; overcast in evening; rain at night
15	738.1	16.3	94	17.8	14.1	0.01	0.0	NNE	1	N	2	NW	6	WSW	2	Nb	10	Nb	10	Frequent showers; clear at night
16	744.3	14.8	69	16.9	11.0	0.18	2.5	WSW	3	SSW	4	S	7	S	3	Cu; FrCu	5-10	FrCu	4- 6	One shower in am; clear at night
17	748.7	10.7	72	17.9	3.9		8.9	S	4	ESE	1	E	3	SE	4		0		0	Dew early
18	745.4	11.4	68	23.6	3.0		8.7	SE	2	..	0	..	0	SSE	6	Ci; CiCu	4- 6	Ci; CiCu	4- 6	Dew early
19	742.5	13.0	64	26.1	3.5		7.0	S	2	SE	1	..	0	SSW	2	StCu	1- 6	StCu	4- 6	Overcast at night
20	741.3	14.9	69	20.6	10.4		0.2	..	0	..	0	WSW	4	..	0	CiSt; StCu	4-10	CiSt; StCu	4-10	
21	739.5	17.2	96	22.6	13.5	0.05	3.4	..	0	..	0	W	16	WSW	2	StCu; Nb	7- 9	StCu; Nb	4- 9	Fog early; several showers
22	747.3	14.7	80	19.2	7.6	0.07	1.7	..	0	..	0	SSW	6	SW	3	ASt; StCu; CuNb	8- 4	ASt; StCu	1- 3	Dew early; few drops rain in am; clear in evening
23	750.0	12.0	92	19.8	4.3	0.03	4.6	..	0	..	0	..	0	S	4	CiSt; Cu; StCu	7- 4	CiSt; Cu; StCu	1- 3	Dew early
24	749.7	11.8	85	18.9	5.4		8.8	S	4	SE	2	ESE	5	SE	5		0		0	Dew early
25	750.0	12.0	65	17.5	7.5		1.7	SE	6	E	13	E	11	ESE	7	Ci; CiCu; CiSt	7- 4	Ci; CiCu; CiSt	4- 6	
26	748.5	13.7	53	19.9	10.1		6.9	E	7	ENE	10	ENE	8	ENE	2	Ci; CiCu; CiSt	4- 6	Ci; CiCu; CiSt	4- 6	
27	746.5	13.0	57	22.6	3.7		8.8	NNE	1	NE	1	NE	2	..	0	Ci; CiSt	1- 3	Ci; CiSt	1- 3	
28	745.5	13.0	52	24.3	3.9		8.7	..	0	NNE	4	NNE	1	..	0		0		0	
29	742.9	12.9	46	22.9	2.7		3.6	..	0	N	1	W	11	SW	1	CiSt; CiCu	1- 3	Cu; StCu; Nb	4- 6	Few drops rain in pm; dew in evening
30	745.0	11.7	96	18.9	3.9		3.3	SSW	1	ESE	1	SSE	1	SSE	3	Cu; StCu; CuNb	9- 4	Cu; StCu	1- 3	Fog early; dew at night
31	744.1	10.5	59	21.2	1.1		8.6	..	0	..	0	N	1	NNW	1		0		0	Frost early
SUM						1.26														
MEAN	744.2	14.3	71	21.9	7.2		5.6	1.5		2.3		5.1		2.4						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 167

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1927

DAY	*	†	‡	0-	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	124	116	132	137	162	171	174	200	202	221	204	197	184	165	175	199	187	184	157	150	147	147	147	146	168	0
2	✓	✓	✓	146	161	163	185	226	250	274	285	322	319	275	241	207	197	197	199	192	202	225	279	267	280	269	266	234	0
3	✓	✓	✓	272	284	314	336	345	345	358	357	328	283	232	200	287	(175)	186	187	180	179	184	204	267	242	215	241	258	0
4	✓			260	291	328	415	470	461	⌈388	325⌋	210	172	167	171	168	165	156	160	161	162	163	165	177	192	204	209	239	1
5	✓			232	230	⌈176	93	180	262	322	243⌋	238	257	262	252	229	204	199	197	≷157	138	166≶	147	138	≷134≶	141	129	197	1
6	✓			130	151	146	140	≷136≶	145	140	140	118	126	122	132	134	129	137	143	152	151	155	172	175	175	167	177	146	1
7	✓			197	⌈262	227	212	171	271⌋	248	262	263	224	201	210	191	≷189≶	176	150	142	152	163	171	181	≷109	163	89≶	193	1
8	✓			≷97	153	134	104	137	126	132	129	147	132	125	136	141	136≶	146	147	136	147	148	148	155	161	165	165	139	2
9	✓	✓	✓	152	153	158	162	174	185	204	206	187	189	175	172	170	175	177	168	167	175	181	175	182	176	187	185	176	0
10	✓	✓	✓	177	174	177	179	207	230	215	243	220	205	197	176	156	(151)	140	140	155	174	192	177	110	118	132	162	175	0
11	✓	✓	✓	182	199	235	226	219	233	235	252	267	266	253	238	222	216	225	235	231	204	250	251	262	262	272	277	238	0
12	✓	✓	✓	286	290	285	278	343	337	301	345	375	352	295	240	238	232	211	207	196	214	229	247	274	307	296	272	277	0
13				288	307	296	278	297	345	348	371	410	438	390	290	210	192	185	186	177	184	201	202	214	—	—	—		0
14				—	—	—	—	—	—	—	—	—	372	370	327	240	210	238	235	225	212	200	229	263	274	258	232		0
15	✓			236	≷268	317	385	260≶	253	221	189	167	148	≷120	116	113	98	141	143≶	179	153	141	140	147	151	148	152	183	1
16	✓	✓	✓	163	166	165	161	152	148	157	160	165	157	152	162	165	163	151	132	104	113	136	132	126	128	133	138	147	0
17				151	152	153	160	167	189	197	211	277	252	227	211	199	(176)	174	187	172	180	187	190	⌈142	95	113	136⌋		0
18				⌈143	165⌋	191	191	200	202	212	238	290	283	262	237	232	225	217	216	225	205	186	171	⌈126	109	106	122⌋		0
19				⌈147	170⌋	187	210	229	247	238	271	327	354	335	319	269	240	238	242	226	206	210	212	204	—	—	—		0
20				—	—	—	—	—	—	—	—	—	301	318	299	264	233	210	192	205	⌈246	268	247	252	294	322	318⌋		0
21	✓	✓		⌈251	307	189	289	220	212	261	246	245⌋	≷202≶	(181)	168	156	150	141	≷147≶	151	134	138	145	143	147	171	170	190	1
22	✓	✓	✓	⌈209⌋	206	206	206	202	216	211	212	190	182	174	167	158	160	157	168	166	165	176	186	197	205	⌈225	262⌋	192	0
23	✓			⌈262	273	251	261	255	278	237	242	241⌋	250	248	214	209	200	201	202	172	162	161	175	171	191	190	189	218	0
24	✓			170	174	181	175	182	174	156	162	187	199	196	185	175	(165)	163	155	129	165	124	137	114	128	158	187	164	0
25	✓	✓	✓	206	214	224	241	258	283	299	311	311	307	266	250	219	220	221	237	225	216	197	215	200	187	206	232	239	0
26	✓	✓	✓	246	260	243	245	226	233	238	241	233	230	204	190	179	192	212	222	217	214	202	229	240	238	245	242	226	0
27	✓	✓	✓	248	252	256	258	261	262	268	274	262	241	216	205	202	187	191	202	211	206	217	210	205	240	238	261	232	0
28	✓	✓	✓	286	310	322	331	331	341	335	350	352	319	277	261	237	221	225	236	231	224	230	230	233	242	252	250	276	0
29	✓	✓		262	330	321	312	339	366	369	401	404	385	372	303	225	199	162	184	171	176	180	190	(180)	⌈185	168	160⌋	264	1
30	✓	✓	✓	⌈202	237	262	217	242	247	227	238	245	246⌋	229	287	162	155	147	150	150	155	172	176	129	120	130	137	194	0
31	✓	✓	✓	148	179	190	214	238	257	266	290	296	290	255	229	202	(184)	172	184	189	190	195	209	237	274	314	325	230	0
MEANS * 25 DAYS				206	226	224	230	237	251	249	252	247	236	216	204	189	177	176	180	174	174	179	186	186	190	197	201	208	
MEANS † 17 DAYS				209	226	226	234	244	254	258	271	271	258	233	217	198	185	182	188	184	184	192	200	200	206	212	219	219	
MEANS ‡ 15 DAYS				203	213	222	225	239	249	251	264	264	254	227	214	199	186	186	191	187	188	196	205	205	211	217	2[illegible]	218	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 168

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1927

DAY	*	†	‡	0-	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	92	84	99	104	126	138	149	166	180	208	193	184	167	144	149	176	160	157	135	123	112	104	89	90	139	0
2	✓	✓	✓	101	112	123	129	183	220	242	245	289	305	279	237	201	186	174	178	167	168	195	253	243	254	254	241	207	0
3	✓	✓	✓	243	254	210	334	345	344	358	345	320	283	220	198	182	182	(182)	173	155	150	158	169	243	232	200	209	237	0
4	✓			218	232	299	414	489	477	⌈397	321⌋	204	166	158	152	153	154	146	144	133	125	136	144	147	158	181	171	222	1
5	✓			180	180	⌈146	98	158	243	297	253⌋	227	243	251	236	200	192	186	180	≷160	125	155≶	133	124	≷109≶	125	112	180	1
6	✓			112	126	122	120	≷126≶	106	103	112	113	111	112	122	124	116	118	116	127	124	116	116	129	125	114	114	118	1
7	✓			144	⌈203	189	177	150	242⌋	224	230	250	212	198	209	204	193	177	149	133	139	141	144	147	≷170	152	103≶	178	1
8	✓			≷139	81	54	95	92	93	91	86	107	133	136	133	131	145≶	136	122	120	118	119	131	127	125	106	117	114	2
9	✓	✓	✓	111	114	122	112	128	138	159	170	167	166	170	160	162	165	168	159	149	138	126	135	144	133	137	147	145	0
10	✓	✓	✓	133	128	135	140	154	180	167	190	209	201	198	170	154	147	(136)	133	144	145	172	165	97	91	114	133	152	0
11	✓	✓	✓	152	166	193	199	193	217	210	205	237	255	244	233	210	208	203	206	186	151	199	220	243	252	263	265	213	0
12	✓	✓	✓	276	273	279	252	304	317	308	317	350	353	304	252	243	233	206	183	176	160	187	198	233	253	278	240	257	0
13				252	288	286	222	227	322	335	337	389	417	379	271	178	181	190	181	167	147	160	167	191	192	185	166		0
14				⌈135	115	170	151	125	197	212	216	303⌋	364	375	317	224	204	225	222	192	190	192	198	242	253	241	222		0
15	✓			214	≷257	301	373	245≶	233	209	180	150	125	≷124	112	103	138	137	135≶	144	131	116	122	105	111	108	115	166	1
16	✓	✓	✓	120	127	117	114	115	101	100	104	133	133	135	154	152	146	137	112	84	82	92	92	89	83	74	97	112	0
17				118	126	127	126	126	139	153	176	265	246	218	211	198	174	(168)	171	164	156	157	155	⌈114⌋	——	——	——		0
18				——	——	——	——	——	——	——	——	——	290	268	242	234	211	187	184	178	171	147	125	⌈ 92	82	79	103⌋		0
19				⌈124	156⌋	177	189	211	237	230	265	331	338	318	319	262	232	224	221	205	173	178	190	187	——	——	——		0
20				——	——	——	——	——	——	——	——	——	258	306	297	265	222	196	168	162	⌈201	226	211	220	253	299	286⌋		0
21	✓	✓		⌈228	279	169	277	201	219	252	233	228⌋	≷200	172≶	155	145	144	138	≷135≶	129	103	105	104	112	106	108	126	170	1
22	✓	✓	✓	⌈166⌋	180	184	166	162	168	173	176	159	152	150	151	144	143	139	138	139	117	124	127	155	165	⌈183	190⌋	156	0
23	✓			⌈238	243	224	233	228	252	233	199	187⌋	232	245	207	196	187	186	185	157	131	136	149	150	158	160	166	195	0
24	✓			154	166	166	167	176	158	150	139	167	201	209	181	164	172	(176)	154	124	150	96	113	92	106	139	166	154	0
25	✓	✓	✓	190	195	208	220	232	276	294	302	318	306	277	257	223	223	224	230	220	210	179	199	192	185	200	224	233	0
26	✓	✓	✓	233	245	232	212	211	217	220	219	221	216	204	189	176	191	213	220	205	187	186	211	213	219	224	212	212	0
27	✓	✓	✓	211	227	233	243	224	235	252	256	245	228	212	197	192	165	170	170	178	189	199	197	187	193	226	229	211	0
28	✓	✓	✓	293	315	327	345	345	351	349	331	336	321	296	273	244	227	230	224	207	208	195	213	233	240	241	229	274	0
29	✓	✓		243	315	336	340	376	400	404	435	426	399	400	330	240	205	165	171	158	153	143	157	⌈130	143	127	113⌋	263	1
30	✓	✓	✓	⌈170	199	229	194	195	211	227	227	238	245⌋	227	182	156	138	125	132	114	115	140	156	124	101	108	120	170	0
31	✓	✓	✓	129	166	183	218	222	254	271	284	279	283	274	233	197	171	(158)	165	162	179	191	210	242	275	307	318	224	0
MEANS * 25 DAYS				180	195	195	211	215	232	234	229	230	227	216	196	179	173	167	164	153	146	150	159	161	164	169	170	188	
MEANS † 17 DAYS				182	199	199	212	219	234	243	247	255	250	233	209	188	178	172	171	161	154	160	172	176	178	184	187	198	
MEANS ‡ 15 DAYS				175	186	192	199	209	224	232	236	245	244	226	205	187	178	174	173	163	157	165	178	183	185	193	196	196	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 169

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				56	75	71	62	58	47	47	49	49	Z	Z	Z	Z	Z	199	108	95	100	86	79	88	88	83	79		1
2	✓	✓	✓	77	66	86	86	83	81	81	68	66	83	90	90	86	88	81	83	95	83	60	66	75	77	77	73	79	0
3				68	60	51	60	47	43	43	41	39	45	58	64	64	60	68	54	56	47	Z	N 43	81	Z	−13	−116		2
4				−21	N113	Z	Z	Z	113	121	102	100	129	123	Z	133	120	111	118	113	104	97	71	64	49	47	49		1
5	✓	✓	✓	62	68	71	64	47	51	39	43	62	64	71	73	86	95	93	86	71	66	68	81	88	68	66	64	69	0
6	✓	✓	✓	64	64	64	66	64	64	56	51	56	51	47	51	56	56	60	64	73	86	118	97	81	81	77	77	68	0
7	✓	✓	✓	77	68	68	68	68	64	56	51	49	56	60	66	64	79	86	83	83	71	64	64	68	64	83	88	69	0
8	✓	✓	✓	71	56	62	60	62	47	45	41	47	60	68	79	83	86	88	90	102	75	68	51	51	43	47	47	64	0
9	✓	✓	✓	51	62	60	58	56	58	51	39	54	62	71	75	93	90	86	86	95	64	64	56	49	64	60	56	65	0
10	✓	✓	✓	51	54	54	47	43	47	45	45	58	73	75	73	81	92	88	102	90	77	68	64	68	64	68	60	66	0
11				77	68	64	60	64	64	60	60	68	75	73	68	51	N 39	58	N 24	−28	Z	N 4	N 88	127	88	97	88		1
12	✓	✓	✓	104	102	120	137	125	123	106	92	106	111	111	121	116	108	127	104	106	88	100	83	79	81	73	71	104	0
13	✓	✓	✓	75	86	88	86	86	75	58	58	62	64	66	79	83	95	97	97	102	73	62	60	77	81	97	88	79	0
14	✓	✓		71	68	73	81	73	56	N 17	49	N 32	58	56	66	73	79	83	90	88	95	90	81	81	88	100	102	73	1
15	✓	✓		97	106	93	83	79	100	116	125	68	86	71	95	93	100	95	90	90	79	68	73	88	108	106	N 47	90	1
16				N 73	86	90	N 93	104	N 45	N 43	Z	106	Z	Z	97	Z	97	Z	N 83	Z	Z	Z	88	Z	Z	Z	163		2
17				Z	Z	125	Z	123	Z	Z	92	102	97	102	88	Z	Z	Z	Z	Z	Z	102	Z	Z	137	156	144		2
18				Z	172	Z	N135	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	104	100	93	N 75	88	83	68	81		2
19	✓	✓	✓	86	92	92	79	102	102	100	83	106	86	83	90	83	93	83	100	93	81	83	77	79	73	58	49	86	0
20	✓	✓	✓	56	47	47	47	58	45	43	49	45	45	19	64	62	58	66	73	79	62	62	51	51	58	47	47	53	0
21	✓	✓	✓	45	43	54	60	51	49	45	41	43	47	56	58	60	66	66	64	62	49	58	58	58	54	64	56	54	0
22	✓	✓	✓	47	56	64	73	58	58	51	60	62	60	68	68	77	79	77	79	64	56	73	81	68	64	81	73	67	0
23	✓	✓	✓	93	102	86	90	81	86	68	64	68	60	60	64	64	64	68	68	64	47	60	64	60	60	93	81	71	0
24	✓	✓	✓	86	129	109	102	97	77	60	60	60	60	64	68	64	68	77	77	77	60	64	56	51	51	56	81	73	0
25	✓	✓		121	207	168	125	106	86	102	102	102	137	73	56	60	68	86	81	81	77	64	60	75	73	68	49	93	0
26	✓	✓	✓	49	54	47	51	45	47	45	41	51	64	79	88	86	88	83	88	100	108	88	86	77	68	81	77	70	0
27	✓			77	60	47	47	60	54	54	47	58	49	56	71	77	86	81	95	83	66	45	47	51	49	43	49	60	0
28	✓	✓		47	45	41	41	51	47	51	54	49	60	68	73	86	88	79	62	68	92	86	88	N 51	100	118	N 64	67	1
29				86	Z	127	180	N121	N 83	109	100	Z	Z	Z	131	95	100	97	N 81	108	83	86	88	79	81	83	93		1
30	✓	✓	✓	86	77	73	86	73	62	62	64	66	60	68	60	73	97	93	86	86	86	81	77	77	81	93	93	78	0
31																													
MEANS * 22 DAYS				72	78	76	74	71	67	61	60	62	68	67	74	78	83	84	84	84	75	72	69	68	70	75	68	72	
MEANS † 21 DAYS				72	79	77	76	72	68	62	61	62	69	68	74	78	83	84	83	84	75	74	70	69	71	77	69	73	
MEANS ‡ 17 DAYS				69	72	73	74	71	67	59	56	62	65	68	75	77	82	83	84	85	72	73	69	68	67	72	69	71	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 170

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.2	14.1	86	16.2	5.6	0.01	2.8	N	2	NNW	5	W	13	W	6	CiSt; StCu; CuNb	8- 4	Cu; StCu; CuNb	4- 6	Dew early; several showers during day
2	743.4	13.3	64	17.4	6.7	0.25	0.4	W	2	SW	1	W	3	WNW	1	StCu; CuNb	9- 4	StCu; CuNb	4- 6	
3	740.4	13.2	69	20.1	8.1		2.2	..	0	ENE	2	NNW	12	NNW	9	CiSt; StCu; CuNb	7-10	CiSt; StCu; CuNb	7-10	Rain at night
4	732.7	15.2	78	18.6	13.2	0.91	5.3	WNW	7	W	3	WSW	13	..	0	Cu; StCu; CuNb	4- 6	Cu; StCu	7- 8	Light rain in am; dew in evening
5	737.9	11.7	76	16.1	5.6	0.01	4.6	..	0	..	0	ESE	4	ESE	5	Ci; CiSt; CiCu	4- 6	Ci; CiSt; StCu	7- 8	Dew early
6	741.0	10.9	80	15.1	6.1		0.4	SE	2	SE	3	SE	6	SSE	4	Cu; St	7- 9	Cu; St	7- 8	Dew early
7	746.3	10.0	72	16.1	3.0		8.5	SSE	5	SE	2	ESE	6	SE	3		0		0	Dew early; dew in evening
8	745.6	11.5	59	17.8	1.5		8.9	N	1	NE	1	NE	6	..	0		0		0	Light frost early
9	743.6	10.1	77	19.0	2.1		9.0	N	1	NE	1	N	3	..	0		0		0	Dew early, and frost
10	743.1	11.8	65	19.4	2.8		8.2	..	0	..	0	NNE	6	..	0		0	ACu	4- 6	Frost early, and dew; cloudy in evening
11	739.5	12.4	61	17.6	5.5		1.8	N	2	NNE	3	..	0	WNW	3	ACu; ASt	7-10	ACu; CuNb; Nb	10	Raining in pm and evening
12	742.9	10.4	91	15.7	6.0	0.49	4.3	..	0	..	0	SSE	3	S	1	Cu; FrCu	4- 8	Cu; FrCu	7- 8	
13	744.6	9.3	76	16.9	2.0		6.8	SSW	1	..	0	SSE	2	..	0	CiCu; CiSt	5-10	CiCu; CiSt	7-10	Dew and fog early
14	741.5	10.0	69	16.6	6.3		4.6	ESE	2	ENE	5	ENE	8	E	1	ACu; Cu	10- 4	ACu; Cu	3- 0	Dew early; clear in evening
15	738.8	8.0	94	15.6	4.0		2.7	..	0	NE	3	NNE	4	..	0	Cu; StCu	7-10	Cu; StCu; CiCu	6- 1	Dew early; CiCu 1 at 20h
16	733.7	12.0	93	14.4	7.8	0.08	0.3	NNW	2	NNE	4	NW	1	NW	7	St; Nb	7-10	St; Nb	7-10	Rain in early hours; drizzling through day; showers at night
17	730.1	11.3	89	16.7	7.6	1.09	3.9	WNW	5	NW	9	NW	23	W	11	Cu; Nb	10	Cu; Nb	10	Frequent heavy showers
18	734.8	9.8	84	12.6	8.5	0.51	3.6	W	11	W	10	WSW	11	..	0	Cu; Nb	8-10	Cu; Nb	10	Frequent showers
19	744.0	9.9	96	16.5	3.0	0.17	2.0	..	0	..	0	WSW	6	WSW	2	Cu; FrCu; StCu	7- 8	Cu; FrCu; StCu	7- 8	
20	750.2	9.7	91	17.8	3.6		1.5	..	0	..	0	..	0	..	0	Cu; StCu	7- 9	Cu; StCu	7- 8	Dew early
21	750.7	11.5	79	19.9	5.3		8.7	..	0	NNE	1	N	1	..	0		0		0	Dew early
22	748.2	11.3	85	22.5	1.7		8.9	..	0	..	0	..	0	..	0		0		0	Frost early
23	746.4	11.0	83	21.1	2.6		8.9	..	0	..	0	NE	2	..	0		0		0	Dew and frost early
24	743.2	11.6	74	22.1	3.4		8.0	SE	1	N	1	NE	3	..	0		0	ACu; StCu	1- 3	Dew early
25	742.7	9.7	98	19.7	6.9		2.7	..	0	N	1	WNW	7	WSW	1	ACu; ASt	7-10	ACu; StCu; Nb	7-10	Fog from 0h to 10h
26	743.0	14.4	88	19.4	9.0		4.5	..	0	..	0	SW	3	SW	1	ACu; Cu; FrCu	6- 8	Cu; FrCu	7- 8	Dew early
27	743.2	12.2	84	20.3	4.1		4.6	..	0	..	0	W	2	..	0	St; FrCu	1- 6	StCu; FrCu	4- 6	Dew early; clear in evening
28	739.6	14.8	66	19.3	9.1		2.0	..	0	NNE	6	N	10	N	6	ACu	7-10	ACu; Nb	7-10	Dew early; light rain in pm and evening; lightning in NW
29	737.3	11.1	88	14.5	10.8	0.33	4.6	NW	10	W	16	W	15	WNW	2	Cu; FrCu; Nb	4-10	Cu; FrCu; Nb	7-10	Frequent showers
30	743.0	9.5	91	16.2	6.6	0.04	0.7	..	0	..	0	NNW	7	N	2	Cu	7-10	Cu	7-10	
31																				
SUM						3.89														
MEAN	741.7	11.4	80	17.8	5.6		4.5	1.8		2.6		6.0		2.2						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 171

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[264	226	230	290]	326	353	322	319	304	}248	248	184	170	126}	147	145	141	136	145	145	148	158	170	189	214	1
2	✓	✓	✓	210	232	209	197	201	222	212	221	222	230	190	171	172	176	172	173	172	184	176	201	198	204	195	210	198	0
3	✓			232	269	322	300	321	350	326	333	350	345	251	204	182	179	175	179	170	162	}120	161	141	98	154	110}	226	2
4	✓			}162	163	148	148}	155	150	145	150	152	157	143	}138}	147	135	144	148	150	159	172	199	203	225	237	222	165	1
5	✓	✓	✓	221	[186	166	211]	284	285	292	[281	227]	233	225	198	173	150	148	158	176	173	190	208	217	216	226	245	212	0
6	✓	✓	✓	262	269	272	279	300	285	299	301	306	341	327	284	262	(227)	217	231	217	171	107	135	157	157	176	179	240	0
7	✓	✓	✓	186	198	202	214	232	250	260	264	291	281	239	209	184	173	158	171	181	186	186	168	158	199	198	199	208	0
8	✓	✓	✓	226	262	271	272	268	293	313	319	335	299	250	204	171	171	152	148	144	161	155	186	197	238	274	286	233	0
9	✓	✓	✓	294	281	295	298	290	286	298	331	332	315	281	250	226	211	199	193	189	187	162	199	217	222	251	273	253	0
10	✓	✓	✓	277	277	299	327	343	339	343	353	337	291	259	245	231	221	208	208	203	214	216	238	250	245	250	258	268	0
11	✓			251	280	307	319	305	305	305	317	304	275	254	247	259	274	269	}226	190	119	197	181	161}	172	171	159	244	1
12	✓	✓	✓	170	170	173	173	180	179	189	[212	208]	193	176	164	164	139	138	167	167	180	176	164	185	186	212	222	179	0
13	✓	✓	✓	231	220	206	199	201	226	248	258	282	261	238	199	185	170	161	161	153	185	198	214	211	186	179	203	207	0
14	✓	✓		244	238	253	232	251	277	291	305	[288]	319	319	287	280	(243)	238	215	208	201	198	199	181	191	195	201	244	1
15	✓	✓		221	216	228	245	253	[228	199	190	185	176	203	223]	236	234	242	248	247	226	236	238	209	209	221	237	223	1
16	✓			259	253	230	232	254	}249}	254	238	258	}135	231	247	182	185	99	198	(158)	111	191	176	152	110	136	159}	196	2
17	✓			}140	147}	159	}135}	150	164	168	176	164	145	}111	55	63	47	46	55	67	81	94	109	126}	138	149	148	118	2
18	✓			144	147	}139	145	152	132	111	135	149	147	134	148	149	111	162	138}	150	159	171	177	176	184	199	189	152	2
19	✓	✓	✓	211	204	211	221	194	187	187	203	205	226	198	177	175	163	170	168	167	181	185	194	197	193	222	248	195	0
20	✓	✓	✓	265	288	315	354	366	381	404	[390	367]	379	295	237	215	211	214	208	209	201	221	216	223	226	240	260	279	0
21	✓	✓	✓	282	295	290	269	262	260	261	298	347	322	247	233	228	(220	227)	221	232	222	211	205	209	214	243	262	252	0
22	✓	✓	✓	284	280	247	248	297	306	322	285	325	321	306	272	249	230	227	225	231	210	209	203	228	227	200	200	256	0
23	✓	✓	✓	203	193	193	164	195	189	211	230	274	307	310	298	248	239	217	219	215	210	200	206	226	209	185	211	223	0
24	✓	✓	✓	[201	159	199	200	228	277]	310	341	345	341	306	273	271	268	250	234	230	233	238	250	275	281	[278	185]	257	0
25	✓	✓		[157	139	159	186	216	223	173	227	227	175	261	327]	233	197	173	163	158	164	187	220	197	201	236	282	203	0
26	✓	✓	✓	293	307	311	317	343	343	341	392	395	299	234	199	199	186	182	175	176	166	162	176	189	200	199	203	249	0
27				[236	271	293	292	247	239	272	342	242	313]	286	222	187	186	198	199	194	209	247	250	258	260	317	310		0
28	✓	✓		331	356	391	380	331	331	312	298	284	247	201	191	182	171	166	162	158	172	184	175	173	182	175	162	238	1
29	✓			172	}128}	158	148	135	140	134	132	}134	135	138	120	(132	127)	132	138	163	171}	168	175	177	186	187	197	151	1
30	✓	✓	✓	200	227	227	220	260	262	264	277	275	254	245	221	190	187	185	179	176	184	187	204	221	208	175	189	217	0
31																													
MEANS * 29 DAYS				227	228	235	238	251	258	258	268	271	255	235	214	199	185	180	181	179	176	181	190	193	195	205	210	217	
MEANS † 21 DAYS				237	238	244	248	262	268	273	285	288	277	253	232	213	199	193	192	191	191	190	200	206	209	216	225	230	
MEANS ‡ 17 DAYS				236	238	240	245	261	269	280	292	298	288	254	226	208	197	190	191	190	191	187	198	209	212	218	225	231	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 172

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[265	214	197	243]	305	348	325	321	308	276}	178	120	141	146}	125	125	124	115	114	122	117	114	115	127	191	1
2	✓	✓	✓	157	178	155	150	145	168	157	178	192	177	156	144	149	153	146	143	124	116	122	137	128	133	118	128	148	0
3	✓			159	195	274	253	265	307	283	315	289	270	221	195	180	178	170	177	167	159	185}	154	138	(154)	170	187}	210	2
4	✓			{156	114	105	91}	95	93	92	123	112	105	115	95}	116	124	123	116	118	105	113	151	155	177	209	181	124	1
5	✓	✓	✓	182	[147	144	193]	255	233	243	[235	196]	209	203	191	165	145	131	144	167	169	180	193	194	206	209	224	190	0
6	✓	✓	✓	238	237	219	241	256	252	292	284	321	355	348	312	274	263	(221)	222	212	170	93	115	126	127	143	165	229	0
7	✓	✓	✓	170	177	184	199	216	230	235	254	297	293	258	222	187	171	156	168	172	168	166	150	146	180	165	170	197	0
8	✓	✓	✓	207	239	243	251	252	268	304	315	312	290	258	193	167	168	151	138	127	139	150	171	185	244	263	302	222	0
9	✓	✓	✓	312	297	313	318	278	292	305	325	299	299	283	252	219	206	187	179	159	166	133	172	193	203	240	261	245	0
10	✓	✓	✓	265	265	297	328	353	354	364	370	341	285	256	243	222	208	196	189	173	170	173	200	216	213	230	224	256	0
11	✓			219	277	307	312	293	289	307	311	292	275	252	242	258	274}	253	241	250	263	203	166}	135	130	127	115	241	1
12	✓	✓	✓	90	104	105	115	115	109	129	[146	151]	159	166	137	154	136	114	137	126	115	114	119	130	153	176	197	133	0
13	✓	✓	✓	199	179	168	177	170	193	236	233	255	256	230	182	165	144	149	143	139	154	160	170	168	155	144	162	180	0
14	✓	✓		196	211	235	226	241	267	305	307	[307]	329	327	294	275	239	(221)	198	193	183	178	180	153	141	127	130	228	1
15	✓	✓		173	155	170	170	207	[192	160	149	159	154	187	196]	212	212	222	228	217	196	204	194	180	187	198	241}	190	1
16	✓			{232	201}	200	213	229	{252}	242	240	227	{282	285	239	220	169	216	159	184	246	180	145	166	200	149	124}	208	2
17	✓			{101	116}	125	{125}	123	{118	136}	139	139	146	{112	70	70	101	(97)	91	66	72	82	89	101}	106	101	111	106	2
18	✓			105	114	{108	105	91	117	112	105	111	131	137	135	133	149	125	133}	116	113	120	119	116	132	139	137	121	2
19	✓	✓	✓	144	146	147	162	147	138	142	146	150	178	169	158	152	144	147	140	124	131	125	135	138	150	183	233	151	0
20	✓	✓	✓	251	273	314	332	329	356	367	[346	353]	363	295	211	181	183	168	166	150	151	164	168	160	166	187	217	244	0
21	✓	✓	✓	235	265	282	261	251	256	272	307	333	323	254	246	234	220	(201)	203	192	177	183	209	203	203	227	253	241	0
22	✓	✓	✓	276	258	243	233	276	283	326	285	295	295	303	276	252	221	209	189	185	163	172	180	209	220	190	160	237	0
23	✓	✓	✓	156	152	163	156	167	176	199	222	243	295	306	299	252	238	209	190	182	179	177	181	192	203	158	176	203	0
24	✓	✓	✓	[183	129	143	177	191	235]	309	335	336	333	304	271	263	252	239	224	201	211	219	230	240	245	[205	160]	235	0
25	✓	✓		[144	125	144	180	191	213	172	224	216	167	292	345]	233	190	167	146	136	127	135	159	141	149	179	214	183	0
26	✓	✓	✓	275	274	294	298	336	343	321	374	362	275	212	180	176	167	160	155	136	130	127	119	137	159	146	157	221	0
27				—	—	—	—	—	—	—	—	—	[295]	277	182	171	171	174	168	151	149	195	214	228	201	244	265		0
28	✓	✓		287	326	379	365	326	324	297	297	282	244	203	183	170	159	159	168	156	157	158	154	164	155	145	151	225	1
29	✓			149	{157}	137	119	116	124	123	115	{115	125	124	114	125	149	(135)	135	131	124}	122	123	136	127	137	117	128	1
30	✓	✓	✓	146	160	174	154	218	233	236	224	245	244	235	217	179	169	170	166	159	149	146	162	172	177	156	170	186	0
31																													
MEANS * 29 DAYS				196	196	206	212	222	233	241	249	250	246	230	206	190	182	171	166	158	156	152	157	160	169	170	179	196	
MEANS † 21 DAYS				204	205	215	223	234	244	256	265	269	263	250	226	204	190	177	173	163	158	156	167	170	179	180	195	207	
MEANS ‡ 17 DAYS				205	205	211	220	233	242	261	269	275	272	249	220	199	188	174	170	160	156	153	165	173	184	185	198	207	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 173

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		96	108	112	112	117	105	93	89	93	77	96	85	117	101	105	117	101	96	93	73	52	79	73	59	94	0
2	✓	✓		67	61	67	71	59	75	82	81	79	79	98	101	N 68	103	110	96	105	106	79	73	68	75	79	67	81	1
3	✓	✓		68	63	61	96	89	63	59	59	77	65	68	N 57	68	73	94	67	91	79	103	82	118	73	71	93	77	1
4				75	81	89	105	94	93	81	82	91	94	89	87	N 82	Z	Z	122	117	101	94	85	79	79	87	82		1
5				91	98	81	106	112	114	105	103	N 98	114	106	87	Z	Z	N108	124	Z	110	94	108	101	101	105	103		1
6				103	101	105	105	101	93	94	103	96	89	91	N 77	87	89	93	Z	85	105	81	89	101	118	106	96		1
7				94	105	—	—	—	—	—	—	—	81	89	93	77	79	82	82	93	77	87	87	63	—	—	—		0
8				—	—	—	—	—	—	—	—	105	65	61	77	77	77	81	89	81	61	65	65	68	65	65	55		0
9	✓	✓	✓	48	46	52	57	61	61	63	65	68	71	73	77	71	82	94	85	87	79	71	79	89	93	65	57	71	0
10				52	48	61	68	73	77	85	85	89	85	81	61	73	89	Z	85	96	105	136	93	96	101	105	101		1
11	✓	✓	✓	101	93	73	65	61	68	65	65	96	96	105	101	89	89	93	93	93	85	81	68	81	73	81	68	83	0
12				85	101	96	89	81	101	93	77	124	Z	Z	Z	Z	Z	Z	Z	—	—	—	—	93	85	81	81		2
13	✓	✓	✓	73	73	89	96	105	101	89	85	93	93	93	101	117	120	124	108	105	81	85	81	89	105	120	136	98	0
14	✓	✓	✓	155	120	120	140	148	140	120	120	124	93	89	85	81	82	81	81	82	67	73	82	79	85	101	96	102	0
15	✓	✓	✓	101	108	128	103	114	101	82	77	68	75	77	77	81	79	75	93	81	65	65	73	77	85	89	101	86	0
16	✓	✓	✓	77	77	81	77	77	65	65	65	61	68	68	77	68	65	68	73	81	77	73	85	89	89	85	77	74	0
17	✓	✓	✓	73	68	68	68	77	81	81	68	68	68	68	77	68	81	81	77	81	65	68	81	101	81	73	65	74	0
18	✓	✓	✓	65	65	65	73	65	81	77	77	77	77	65	61	68	93	96	93	96	85	85	101	120	124	120	122	85	0
19	✓	✓	✓	126	108	98	96	105	103	96	87	85	81	77	77	91	96	98	103	114	98	110	103	132	140	162	140	105	0
20	✓			143	126	108	101	114	96	82	77	77	81	89	85	81	89	89	77	81	85	89	93	126	120	93	77	95	0
21	✓	✓	✓	65	65	65	65	61	65	65	61	59	59	63	68	75	79	81	85	91	92	85	93	85	79	77	75	73	0
22	✓	✓	✓	59	59	57	73	79	77	67	79	79	82	91	98	103	108	105	105	98	79	59	59	59	42	46	42	75	0
23	✓	✓	✓	42	46	50	59	67	75	75	73	79	77	82	89	98	98	98	87	94	101	82	85	87	77	68	65	77	0
24				77	81	85	85	93	77	N 40	N 52	−21	−77	−40	N 35	−65	Z	−52	Z	Z	Z	Z	−21	96	N 65	73	N 57		2
25	✓	✓		73	73	81	112	152	255	270	210	195	148	89	81	96	101	101	101	96	87	63	71	77	68	63	63	114	0
26	✓	✓		71	132	98	106	143	188	138	155	120	N 82	N 59	68	68	79	N 65	N 59	52	68	N 44	89	96	89	91	73	93	1
27	✓	✓		63	59	82	117	96	81	106	75	81	71	89	96	89	96	94	96	101	87	73	61	67	75	85	89	85	0
28	✓			89	77	81	N 93	101	94	106	101	108	114	91	91	89	101	98	94	96	98	101	103	98	85	87	57	94	1
29				91	89	103	N 101	N 63	N 77	Z	Z	Z	126	Z	N108	N 85	101	N 87	110	Z	126	96	N 68	N 103	N 112	Z	114		2
30				118	117	122	131	127	124	108	110	101	103	89	Z	Z	Z	105	110	108	112	118	120	110	N 105	98	98		1
31	✓	✓	✓	93	98	106	98	105	101	96	96	101	96	101	85	81	85	108	101	96	105	93	85	89	85	89	81	95	0
MEANS * 21 DAYS				83	82	83	89	95	99	94	89	90	83	82	83	84	90	93	90	92	85	80	82	89	87	87	81	87	
MEANS † 19 DAYS				80	80	82	89	94	99	94	89	90	82	82	82	84	90	93	91	92	84	78	80	87	85	86	83	86	
MEANS ‡ 13 DAYS				83	79	81	82	87	86	80	78	81	80	81	83	84	89	92	91	92	83	79	83	91	89	90	87	85	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌜ ⌟=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 174

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.6	12.3	97	17.2	8.9	0.06	1.8	NNW	6	NNW	1	W	13	NNW	1	Cu; Nb	7-10	Cu; Nb	7-10	Light showers in early am and during day
2	741.3	11.5	86	18.2	6.8		3.1	N	1	NW	1	W	9	W	2	CiCu; Cu; FrCu	6-10	CiCu; Cu; FrCu	7-10	Dew early
3	742.6	11.8	97	17.0	4.8		0.1	N	1	N	1	N	7	N	1	Cu; CuNb	7-10	Cu; CuNb	7-10	Dew and mist early; fine rain at intervals in pm and evening
4	738.1	14.6	85	17.0	11.1	0.08	2.7	NNW	3	NNW	5	W	10	W	4	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Light rain in am; showers at intervals in pm
5	738.0	12.4	89	16.7	9.7	0.23	4.0	NW	4	WNW	8	WSW	20	NW	2	StCu; CuNb; Nb	4-10	StCu; CuNb; Nb	7-10	Raining throughout day; clearing in evening
6	745.1	12.1	95	17.8	6.0	0.14	4.1	WNW	4	NNW	1	WSW	15	WSW	3	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Rain at intervals
7	749.3	12.1	88	17.2	7.1	0.05	4.3	SW	4	..	0	SSE	3	SSE	1	ACu; FrCu; StCu	4- 6	ACu; FrCu; StCu	4- 6	Mist in am; clear in evening; dew at 21h
8	751.7	9.6	89	17.4	2.3		8.9	NNE	1	..	0	ENE	6	..	0		0		0	Dew early
9	748.1	9.6	77	21.4	3.3		9.1	N	1	N	4	NNW	8	WNW	2		0		0	Dew early
10	743.7	13.9	84	18.3	4.3		2.4	N	3	N	5	NW	10	W	1	Ci; CiCu; ASt	4- 6	CuNb; Nb	7-10	Dew early; rain in pm and evening
11	743.5	12.0	97	16.6	7.1	0.15	2.9	WNW	2	NW	2	W	7	..	0	CiCu; Cu; Nb	7- 8	Cu; Nb	7- 8	Occasional light showers during day and evening
12	739.5	11.3	86	12.7	5.0	0.04	3.6	NNW	1	NW	4	WSW	6	WSW	..	Cu; Nb	7-10	Cu; Nb	7-10	Frequent showers
13	747.3	7.9	90	14.2	1.0	0.28	7.6	..	0	..	0	..	..	SSE	2		0	FrCu	1- 6	Frost early
14	749.9	7.9	82	15.4	0.6		8.7	S	2	SSE	1	ESE	4	SE	4		0	FrCu	1- 3	Frost early
15	749.1	8.7	75	15.9	0.0		8.0	SSE	2	..	0	ENE	5	ESE	2	FrCu	1- 3	FrCu	4- 6	Heavy frost early; clear at night
16	749.1	9.3	72	15.7	0.4		8.3	SE	2	ESE	1	E	9	SE	6	FrCu	0- 1		0	Frost early
17	748.2	9.7	70	16.3	1.2		8.0	ESE	5	ESE	4	E	10	ESE	6	CiCu; FrACu	1- 6	CiCu; FrACu	4- 6	Frost early
18	745.9	8.0	72	16.3	1.5		8.7	SE	2	SSE	4	ESE	8	SSE	5	CiSt; ACu	2- 6	CiSt; ACu	4- 6	
19	748.2	8.1	60	15.4	-0.1		8.9	SSE	4	S	1	SE	6	SSE	6	CiSt; FrACu	1- 3	FrACu	1- 3	Frost early
20	750.5	8.8	70	16.2	0.7		9.1	SSE	5	SE	3	E	11	SSE	6		0		0	Frost early
21	750.8	9.8	67	16.4	1.2		9.1	ESE	5	ENE	12	ENE	8	SSE	3		0		0	Frost early
22	748.7	8.5	60	15.8	0.8		9.2	ENE	2	NE	8	NE	6	ENE	1		0		0	Frost early
23	744.4	8.2	59	18.3	0.1		3.2	N	2	NNE	4	N	10	NNE	4	ACu; CiCu; CiSt	4- 8	ACu; ASt	7- 8	Dew early; overcast in evening
24	741.5	8.5	92	11.4	8.4	0.07	0.0	N	2	N	4	NE	9	NNE	14	Nb	10	Nb	10	Rain from 0h and throughout day and evening
25	737.6	10.6	99	18.8	8.4	0.85	4.7	N	4	N	7	WNW	10	N	3	Cu; FrCu	7-10	FrCu; StCu	4- 6	Fog until 10h
26	735.5	12.6	99	15.1	10.0	0.03	0.0	NNW	1	N	3	W	4	NW	1	Nb	10	Nb	10	Fog until 10h; rain at times day and eve.; lightning in eve.
27	737.0	13.2	93	18.6	5.3	0.11	5.9	..	0	..	0	WNW	6	N	2	Cu; FrCu; Nb	7- 8	Cu; FrCu; Nb	4- 6	Fog until 8h
28	736.5	11.7	98	18.9	8.8	0.07	3.7	NNW	2	N	2	WNW	13	NW	4	CuNb; Nb	7-10	CuNb; Nb	7-10	Misty rain in am
29	735.5	13.0	95	17.1	10.1	0.13	3.9	NNW	2	NNW	6	WNW	19	W	11	Cu; FrCu; Nb	7-10	Cu; FrCu; Nb	7-10	Heavy showers at intervals
30	737.4	13.1	66	15.6	6.3	0.20	6.4	WSW	7	WNW	4	WSW	20	WSW	3	Cu; FrCu	3- 6		4- 6	Fog or mist early
31	742.6	11.8	71	16.1	5.1	0.04	2.2	W	4	WNW	2	W	11	WNW	2	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	Clearing in evening; dew at 21h
SUM						2.53														
MEAN	743.7	10.7	83	16.6	4.7		5.2		2.7		3.2		9.4		3.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T. INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 175

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		172	181	176	150	149	187	199	195	197	206	175	147	152	154	158	159	159	170	171	172	199	199	215	223	178	0
2	✓	✓		219	231	223	239	250	237	237	245	261	226	172	168	150	164	162	161	163	170	184	182	176	197	⌈208	216⌋	202	1
3	✓	✓		⌈244⌋	281	306	⌈197	232	331⌋	356	337	248	290	255	211	198	184	189	175	184	184	177	190	190	181	175	173	229	1
4	✓			172	177	185	179	186	176	206	199	205	187	162	141	≷130	(139)	131≶	154	162	166	161	161	162	164	[181]	190	170	1
5	✓			173	186	185	162	176	172	171	148	161	140	≷ 98	78	109	111≶	127	132	141	145	144	140	150	154	150	158	146	1
6	✓			161	158	159	166	176	185	181	184	191	179	166	150	144	135	132	132	124	123	135	136	135	140	153	150	154	1
7	✓			145	152	150	135	145	136	167	⌈170	135⌋	136	149	154	147	162	162	158	157	170	162	164	186	190	172	152	156	0
8	✓			⌈176	163	193	176	180	168	166	158	153	249⌋	250	210	198	177	182	201	221	⌈157	168	197⌋	200	194	212	251	192	0
9	✓	✓	✓	286	319	331	305	295	293	275	271	269	265	240	210	208	199	187	180	191	199	211	217	225	225	285	313	250	0
10	✓			343	347	324	288	272	260	249	256	249	242	209	173	170	166≶	163≶	167	163	162	145	150	162	164	167	194	216	1
11	✓	✓	✓	209	199	201	225	215	197	194	197	203	199	182	172	163	161	166	161	155	167	184	199	200	215	228	250	193	0
12	✓			234	199	193	211	244	214≶	198	223	189	163	91	150	132	(148)	161	175	139≶	177	180	184	208	⌈214	233	245⌋	188	2
13	✓	✓	✓	⌈260	273	237	236	225	233⌋	243	237	223	220	217	180	152	147	149	149	148	163	152	149	161	149	110	110	188	0
14	✓	✓	✓	106	124	147	150	148	159	164	162	159	210	225	221	194	189	194	212	211	200	176	159	175	145	132	127	170	0
15	✓	✓	✓	131	134	149	180	191	211	244	259	291	247	261	233	228	225	227	212	214	219	211	206	199	201	193	179	210	0
16	✓	✓	✓	256	256	272	286	287	295	291	275	294	234	240	222	214	214	222	211	212	212	200	197	172	184	200	223	235	0
17	✓	✓	✓	225	237	248	250	259	261	265	274	281	275	281	269	251	234	223	221	209	221	210	182	135	187	210	225	235	0
18	✓	✓	✓	240	250	237	225	231	225	238	240	225	249	280	273	236	154	141	147	139	161	158	158	138	132	144	149	199	0
19	✓	✓	✓	154	161	172	186	185	193	209	228	247	268	265	238	212	(194)	175	162	175	175	168	182	134	119	124	138	186	0
20				132	148	173	195	201	225	247	260	273	269	—	—	—	—	—	184	141	177	163	—	—	—	—	197		0
21	✓	✓	✓	250	254	254	267	272	273	272	274	255	271	259	238	215	201	199	197	197	⌈199	175	155	181⌋	199	250	253	232	0
22	✓	✓	✓	268	293	328	313	310	311	318	308	281	223	172	190	193	180	193	200	198	210	208	212	214	256	262	269	246	0
23	✓	✓	✓	292	285	290	284	284	273	259	262	266	269	233	205	186	182	182	172	171	172	187	185	172	185	189	190	224	0
24	✓			182	203	212	210	214	223	227	232≶	223	176	168	179	150	77	110	107	94	119	97	81	72	138	172	201≶	161	2
25	✓	✓		210	190	184	⌈159	107	72	84	99	126	141	185⌋	200	172	157	150	158	162	171	189	197	206	219	236	249	168	0
26	✓	✓		⌈233	114	144	131	107	94	109	98	118⌋	181	219	201	173	158	161	171	176	181	173	181	193	199	210	⌈216⌋	164	1
27	✓	✓		⌈251	265	231	(223	217)	210	161	217⌋	271	269	212	189	176	163	166	155	157	168	177	201	203	200	185	184	202	0
28				189	215	215	199	201	199	199	194	168	168	171	150	147	⌈138	136	136	124⌋	157	171	171	159	170	182	173		1
29				≷175	173	172	167	161	157	148	177	168	157	127	118	106	98	119	97	119	144	147	134	138	143	128≶	135		2
30	✓			145	145	150	150	159	155	171	164	162	≷149	74	107	135	135≶	131	138	147	148	150	168	167	175	175	179	149	1
31	✓	✓	✓	173	172	172	171	176	193	197	197	190	168	158	161	154	155	157	163	159	161	163	175	175	184	189	184	173	0
MEANS * 28 DAYS				210	212	216	209	210	212	216	218	217	215	200	188	176	167	168	169	169	174	172	174	175	182	191	200	193	
MEANS † 19 DAYS				219	222	226	220	218	224	227	230	232	232	223	207	191	180	179	177	178	184	183	184	181	188	197	204	204	
MEANS ‡ 13 DAYS				218	227	234	237	237	240	244	245	245	238	232	216	200	187	186	184	183	189	185	183	175	183	194	201	211	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 176

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		160	165	150	138	137	159	163	160	162	179	160	135	131	136	137	131	127	124	129	132	149	156	178	190	150	0
2	✓	✓		174	190	166	174	195	192	181	199	233	205	167	153	145	143	150	132	132	125	122	124	131	149	[154	167]	163	1
3	✓	✓		[220]	264	280	[182	210	308]	329	309	243	275	256	211	190	179	170	169	160	167	154	149	130	149	146	147	208	1
4	✓			147	150	146	149	157	166	179	182	189	173	151	135	≷138	151	126≶	115	123	114	111	114	127	127	136	144	144	1
5	✓			139	133	144	127	127	123	137	127	140	127	≷101	93	105	123≶	103	114	108	111	103	96	105	104	97	104	116	1
6	✓			114	125	145	[115]	125	123	137	130	152	154	154	136	130	116	114	113	105	100	100	99	100	90	105	119	121	1
7	✓			105	95	111	87	92	93	114	[118	75]	127	127	124	131	138	138	131	116	109	107	109	145	138	120	106	115	0
8	✓			[129	125	138	133	149	152	156	112	111	213]	235	193	192	170	174	171	183	[146	143	168]	170	173	176	242	165	0
9	✓	✓	✓	285	319	312	300	278	285	273	261	267	256	247	199	203	198	192	187	186	181	190	195	187	184	246	290	238	0
10	✓			325	353	318	284	258	233	213	223	234	233	198	158	156	158	≷164≶	138	135	126	105	104	109	113	101	127	190	1
11	✓	✓	✓	132	142	129	156	181	132	132	165	169	168	151	152	150	145	145	136	133	122	123	144	152	149	168	219	150	0
12	✓			200	143	150	168	207	166	≷117	196	162	168	146	139	155	144	108	78	108	93≶	118	106	133	[115	157	186]	144	2
13	✓	✓	✓	[179	197	186	169	137	160]	194	193	191	193	201	178	147	135	132	136	138	133	124	123	119	103	95	84	152	0
14	✓	✓	✓	81	105	122	100	105	109	122	116	114	179	197	205	192	172	191	(186	184	169)	142	123	137	114	105	105	141	0
15	✓	✓	✓	96	92	109	150	150	171	217	221	260	227	243	221	229	232	224	204	208	199	180	168	163	156	151	146	184	0
16	✓	✓	✓	187	222	234	233	243	261	269	253	277	230	244	223	220	222	225	213	209	196	176	159	145	169	181	211	217	0
17	✓	✓	✓	222	233	248	244	243	244	235	254	295	287	294	283	273	246	230	225	218	207	178	146	123	166	180	198	228	0
18	✓	✓	✓	220	221	216	198	199	206	222	222	219	258	302	302	253	159	146	146	138	136	139	124	104	103	111	116	186	0
19	✓	✓	✓	122	143	152	159	158	166	187	206	238	259	270	242	221	213	(178)	164	166	150	125	138	100	89	88	91	168	0
20				101	124	137	162	158	196	217	235	281	278	224	219	219	221	214	223	209	200	156	132	83	104	157	200		0
21	✓	✓	✓	252	256	260	273	264	253	253	257	275	297	277	255	238	214	201	197	192	[190	153	142	160]	181	229	225	229	0
22	✓	✓	✓	235	283	299	283	279	281	290	267	267	212	165	180	181	166	170	178	172	173	191	190	195	244	251	254	225	0
23	✓	✓	✓	267	279	297	300	284	262	248	241	240	237	232	180	166	170	179	168	154	145	156	157	150	166	177	181	210	0
24	✓			178	182	177	183	195	210	229	235	≷271	282	216	194	194	252	277	291	287	349	302	92	70	143	157	192≶	215	2
25	✓	✓		197	179	163	[136	91	54	70	80	106	132	176]	200	179	170	155	151	147	140	162	166	170	190	210	233	152	0
26	✓	✓		[197	90	144	108	89	82	113	93	112]	179	213	191	168	159	(164)	149	157	146	154	152	150	159	155	[191]	146	1
27	✓	✓		[210	243	194	132	139	168	114	182]	264	252	190	169	180	172	167	147	133	123	128	160	169	159	143	146	170	0
28				135	155	182	171	165	156	142	150	145	126	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
29				—	—	—	—	—	—	—	—	—	—	—	≷115	123	112	123	105	124≶	126	123	125	120	120	≷114≶	127		2
30	✓			112	107	108	103	100	111	123	116	138	≷136	84	105	115	114≶	108	114	117	112	103	86	105	112	128	136	112	1
31	✓	✓	✓	125	119	118	124	117	128	138	135	152	155	144	141	140	143	143	145	141	138	132	126	127	126	136	145	135	0
MEANS * 28 DAYS				179	184	186	175	175	178	184	188	198	207	198	182	176	169	165	158	156	151	145	135	137	144	153	168	170	
MEANS † 19 DAYS				187	197	199	187	184	191	197	201	215	220	217	201	190	178	174	167	163	156	150	148	145	153	163	176	182	
MEANS ‡ 13 DAYS				185	201	206	207	203	204	214	215	228	228	228	212	201	186	181	176	172	165	155	149	143	150	163	174	189	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 177

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			81	86	90	90	79	66	56	49	64	62	77	73	103	98	105	92	92	75	79	66	66	66	68	56	77	0
2	✓	✓		73	107	107	109	101	107	103	112	105	105	107	98	N 66	96	92	83	114	107	103	81	77	90	88	73	96	1
3	✓	✓	✓	107	101	86	[126	105]	105	107	[112]	94	98	94	71	98	98	98	105	124	107	96	92	101	92	90	83	100	0
4	✓	✓	✓	71	66	68	64	71	81	68	75	77	79	81	86	86	75	81	94	94	94	86	60	64	81	81	68	77	0
5	✓	✓	✓	64	64	68	73	71	77	71	64	64	88	77	92	90	94	103	110	114	122	114	119	131	119	120	131	93	0
6	✓	✓		131	122	132	134	150	N 88	-26	109	103	146	45	117	124	114	117	117	103	103	107	107	103	90	90	98	105	1
7	✓	✓		107	114	103	119	131	126	94	103	126	94	N 34	N 86	N 90	94	N 81	110	N 68	110	114	114	103	90	90	86	99	1
8				68	77	Z	Z	110	94	86	86	110	103	N 92	109	105	117	109	114	103	105	98	96	88	86	88	94		1
9	✓	✓	✓	92	90	64	64	73	62	51	60	77	77	90	110	103	110	103	107	114	103	86	94	68	51	47	47	81	0
10	✓	✓		47	47	47	60	49	62	68	68	79	98	103	101	N 98	105	94	101	79	86	94	83	90	83	75	73	79	1
11	✓			68	81	101	98	105	107	107	109	114	109	N 90	94	101	105	110	112	110	117	98	81	64	64	58	54	94	1
12	✓			60	62	49	81	77	77	79	83	73	73	77	73	73	92	94	101	98	94	86	86	81	64	66	64	78	0
13	✓	✓		54	58	51	49	45	47	51	51	68	88	103	103	77	112	112	117	96	N 83	110	92	153	N 71	120	124	85	1
14	✓	✓		124	112	112	83	77	114	101	124	117	114	103	107	107	110	110	112	117	107	94	92	90	64	60	64	101	0
15	✓	✓	✓	66	73	73	71	75	81	77	73	68	73	77	94	77	94	98	103	103	86	[64]	77	81	90	77	81	80	0
16	✓	✓	✓	73	77	81	81	73	77	68	64	73	68	77	88	101	110	110	107	101	101	110	110	110	110	110	122	92	0
17				114	131	Z	N122	150	138	128	122	122	117	Z	Z	Z	Z	119	103	Z	109	103	103	101	94	90	88		2
18	✓	✓	✓	77	83	92	103	96	88	60	68	77	75	88	86	81	75	75	90	98	86	73	77	77	79	81	[107]	83	0
19	✓			[117	120	163	126	124	112	117]	105	83	77	83	88	81	79	79	77	79	68	62	68	[79	126	134	122]	99	0
20				[114	107]	107	110	107	107	110	90	71	66	—	—	—	—	98	90	86	86	81	90	[103	126	110	98]		0
21	✓	✓		86	90	90	103	103	94	77	68	60	60	86	73	60	56	68	77	81	81	77	68	73	73	64	43	75	0
22				Z	43	Z	39	47	Z	41	39	62	Z	Z	Z	Z	39	68	75	140	83	71	71	86	N 47	-24	Z		2
23				N 36	230	186	Z	Z	94	110	132	107	110	103	98	98	94	92	[94]	94	105	103	101	98	98	92	86		1
24	✓	✓		117	138	148	109	105	[73	45]	88	88	81	75	68	71	75	75	83	83	88	79	86	101	94	92	92	90	0
25	✓	✓	✓	92	96	101	96	107	134	122	114	98	86	81	90	86	90	86	86	103	68	81	103	98	107	114	114	98	0
26	✓	✓		107	[134	193	146	119	177	141	126]	107	94	98	103	98	114	81	92	103	112	[105	110	109	110	114	105]	117	0
27	✓	✓	✓	[126	107	110	92	96	105]	90	120	103	86	[73	68]	60	75	88	81	92	86	81	62	68	81	75	81	88	0
28	✓			77	88	88	94	92	68	56	47	45	47	64	77	81	81	73	81	90	88	73	68	71	79	77	54	73	0
29	✓			[39	54	71]	90	101	81	81	66	51	56	56	56	73	71	75	86	86	90	81	90	98	107	103	98	78	0
30				90	56	—	—	—	—	—	—	103	101	92	88	83	88	90	90	79	92	98	96	98	101	107	92		0
31	✓			64	43	62	79	60	77	73	81	90	86	73	86	73	86	81	86	73	90	83	81	88	88	60	68	76	0
MEANS * 25 DAYS				85	89	94	94	91	91	77	86	84	85	80	88	86	92	92	96	97	94	89	87	90	87	86	84	88	
MEANS † 18 DAYS				90	93	96	93	92	94	76	89	88	89	83	91	87	94	93	99	99	96	93	90	94	88	88	88	91	
MEANS ‡ 9 DAYS				85	84	83	86	85	90	79	83	81	81	82	87	87	91	94	98	105	95	88	88	89	90	88	93	88	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 178

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.8	9.8	96	18.4	2.5	0.02	6.2	NW	3	N	1	WNW	6	NW	1	Cu	3- 8	StCu	4- 6	Mist until 8h
2	744.3	13.0	90	18.5	7.5	0.02	4.5	NW	2	N	1	WNW	10	..	0	Cu; StCu; Nb	3- 8	Cu; StCu; Nb	7- 8	Occasional showers
3	745.8	16.4	66	18.9	7.8	0.04	6.7	..	0	W	3	WSW	11	WSW	2	Cu	4- 7	Cu	1- 3	Practically clear in evening
4	747.4	11.4	86	17.8	7.8		0.6	..	0	..	0	NW	1	..	0	StCu; Nb	7- 8	StCu; Nb	7- 8	Mist in early am
5	743.8	13.3	66	19.8	7.6		1.6	..	0	NNE	2	NW	8	NW	4	Cu; StCu	7- 9	Cu; StCu	7- 8	Rain at night; dew in early am
6	740.4	15.3	91	20.0	12.9	0.18	2.0	NW	8	SW	1	W	7	WNW	2	Cu	4- 6	Cu	4- 6	Rain at night
7	738.2	16.3	92	19.4	10.5	0.10	2.6	NNW	3	NW	2	W	16	SW	6	Cu; Nb	7-10	Cu; Nb	7-10	Frequent showers
8	743.9	14.0	74	17.5	8.6	0.13	7.0	WNW	1	W	2	WSW	8	WSW	2	Cu; FrCu; CuNb	1- 6	Cu; FrCu	4- 6	Occasional light showers in am
9	746.1	10.6	79	18.7	2.9	0.01	8.8	..	0	..	0	N	8	..	0	ACu; Cu; FrCu	1- 6	Cu; FrCu	4- 6	Clearing in evening
10	738.2	14.5	90	18.4	4.8	0.01	4.2	NNW	2	N	5	W	13	NW	1	Cu; Nb	10	Cu; Nb	10	Misty early; fine showers during clay
11	743.3	12.6	88	18.1	8.2	0.05	5.6	W	2	N	1	W	12	..	0	ACu; FrCu; Nb	7-10	ACu; FrCu; Nb	7-10	Light showers at intervals
12	745.8	13.0	81	19.9	4.8	0.02	6.0	..	0	N	3	NNW	6	NW	1	ASt	0- 1	ASt	0- 1	Dew early
13	741.8	14.6	74	19.7	5.1		4.7	NNW	2	N	2	NW	15	NW	6	StCu	1- 6	StCu; Nb	7-10	Dew early; rain in pm and evening
14	745.7	11.9	78	16.8	8.7	0.12	6.0	WSW	3	WSW	1	SSW	4	SW	2	ACu; Cu; StCu	8- 6	Cu; StCu	4- 6	
15	748.2	11.2	72	17.9	2.3		10.0	NW	1	..	0	NE	3	..	0	CiSt; StCu	1- 3	CiSt; StCu	1- 3	Light frost early
16	742.2	12.9	65	23.3	2.0		8.6	..	0	N	2	NW	12	NW	1	CiSt; CiCu; ACu	4- 7	Ci; FrCu	4- 6	Light frost early; rain at night
17	739.4	14.0	56	15.7	10.3	0.15	5.9	NW	7	W	14	WSW	18	WSW	1	StCu; Cu; Nb	2-10	StCu; Cu; Nb	7-10	Rain in early hours and during day
18	746.2	10.0	83	12.6	3.6	0.04	2.5	WSW	1	SE	1	SE	5	SE	1	Cu; StCu	7- 8	Cu; StCu	7- 8	Probably mist early
19	748.3	9.7	62	15.9	0.9		9.9	SE	1	SE	3	E	6	SSE	4	CiSt	0- 1	CiSt	0- 1	Dew and frost early
20	746.2	10.0	63	17.3	0.4		10.0	SSE	3	SE	2	E	6	SE	5		0		0	Dew early
21	741.7	13.8	55	25.6	2.3		10.1	SSE	3	ESE	1	N	2	WSW	2		0		0	Dew early
22	737.1	13.8	69	17.2	8.0	T	1.6	N	1	S	5	..	0	..	0	ACu	7-10	FrCu; CuNb	7-10	Heavy mist in early hours; rain at night
23	738.8	13.0	84	18.6	9.3	0.88	5.9	..	0	SW	1	SW	9	SW	2	ACu; FrCu; CuNb	7- 8	ACu; FrCu; CuNb	7- 8	Occasional drops of rain
24	745.1	11.5	75	16.1	5.7	T	2.9	S	3	SE	3	SSW	6	SSW	3	ACu; Cu	4- 6	ACu; Cu	4- 6	
25	745.1	11.2	70	19.4	2.0		10.0	SSW	2	E	4	NE	2	SSE	3		0		0	Dew early
26	740.7	12.8	63	19.2	1.0		3.4	..	0	NNW	1	WSW	10	W	4	Cu; StCu	7- 8	Cu; StCu; CuNb	7- 8	Dew early; light rain in pm; fire 100 meters W in pm
27	741.7	13.8	83	18.9	8.9	0.04	3.3	W	2	SSW	5	WSW	6	W	1	ACu; Cu; FrCu	7- 9	Cu; FrCu; Nb	7- 8	
28	742.3	13.3	90	18.5	8.5		0.2	W	3	NNW	1	W	7	..	0	StCu; Cu	7-10	StCu; Cu	7-10	Practically clear in evening
29	741.2	13.4	89	20.3	9.0		1.8	NNW	1	NNW	2	WNW	10	NW	5	Cu; StCu	7-10	Cu; StCu	7- 8	
30	738.9	14.4	61	18.3	9.2	0.02	5.6	WSW	8	W	10	W	15	WSW	6	FrCu; StCu	5- 8	FrCu; StCu	7- 8	Misty in am
31	740.7	14.6	78	19.1	7.0	0.03	3.9	WNW	2	WNW	3	WNW	14	NW	1	FrCu; CuNb	5- 8	FrCu; CuNb	7- 8	Occasional showers
SUM						1.26														
MEAN	743.0	12.9	76	18.6	6.1		5.3	2.1		2.6		8.3		2.1						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 179

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1		✓		193	189	185	193	204	213	228	235	246	277	—	—	171	164	162	164	176	172	192	196	197	215	223	255		0
2	✓	✓		232	187	205	196	201	201	193	202	215	196	183	164	153	(157)	163	159	157	159	167	188	185	[185	176]	221	185	1
3	✓	✓	✓	193	182	207	[102	184]	174	169	[196]	188	181	166	149	147	149	(146	138	130)	148	152	162	176	184	182	185	166	0
4	✓	✓	✓	203	221	225	226	232	222	243	255	243	241	229	215	208	188	(185	176	166)	144	155	179	197	202	192	203	206	0
5	✓	✓	✓	215	232	221	237	245	255	263	277	284	246	219	196	189	169	162	157	153	160	172	157	159	167	183	176	204	0
6	✓	✓		159	157	158	169	159	}148	127}	149	150	150	150	150	154	158	162	155	144	143	154	162	176	192	201	197	159	1
7	✓	✓		197	182	173	166	162	164	169	181	183	176	}159}	146	138	142	}139}	149	137	144	137	144	139	157	158	162	158	1
8	✓			178	172	}164	172}	159	159	173	197	181	169	162	163	162	162	159	164	160	153	169	169	179	187	194	183	170	1
9	✓	✓	✓	181	184	229	265	274	298	316	320	292	268	260	201	183	166	(148)	144	146	150	150	162	182	205	252	245	218	0
10	✓	✓		255	259	283	279	292	284	268	247	214	}168	129	137}	133	144	147	142	135	134	147	150	167	184	187	193	195	1
11				185	176	176	185	187	185	184	196	223	194	176	—	—	—	—	—	—	—	—	—	—	—	—	—		1
12				—	—	—	—	—	—	—	—	—	—	194	183	179	172	164	160	157	158	172	188	220	237	235	231		0
13	✓	✓		257	295	327	362	369	371	366	350	292	225	}172	126	119	162	121	138	123}	137	148	144	149	}143}	163	159	217	1
14	✓	✓		155	150	158	160	162	155	164	168	176	181	177	169	179	171	172	173	163	160	176	181	197	225	243	231	177	0
15	✓	✓	✓	232	221	227	233	227	232	239	244	263	260	210	194	187	174	159	160	163	177	[157]	178	174	181	182	193	203	0
16	✓	✓	✓	213	219	232	245	256	252	267	296	294	282	256	208	158	(150)	144	148	143	125	133	133	137	149	172	188	200	0
17	✓			201	}201	110	139}	148	148	147	144	135	}100	86	106	135	134}	146	148	}148}	166	171	179	198	188	187	197	153	2
18	✓	✓	✓	194	197	183	[182	179]	197	235	233	215	198	172	182	181	173	168	173	179	172	177	181	183	187	198	[157]	187	0
19				[131	131	134	147	157	168	184]	207	223	228	205	203	187	197	194	196	191	188	181	172	[173	123	123	148]		0
20	✓			[159	187]	185	174	184	193	192	209	272	303	235	219	199	185	191	179	181	172	157	159	[144	131	157	189]	190	0
21	✓	✓		201	213	221	214	219	232	256	269	305	296	277	235	228	211	193	177	162	169	164	219	232	237	}228	253}	225	0
22	✓			}223	267	277	282	263	215}	225	234	187	182	}138	130	173}	187	183	168	158	164	162	}173	176	197	181	125}	195	2
23	✓			}140	81	117	123	134}	226	211	223	240	210	182	172	167	(160)	159	160	162	169	166	166	172	172	176	182	170	1
24	✓	✓		174	169	177	148	146	149	159	162	169	178	177	174	166	169	169	158	168	171	174	153	143	171	169	162	165	0
25	✓	✓	✓	158	157	169	171	159	147	146	159	198	211	209	208	196	194	189	188	185	185	174	174	171	193	187	182	180	0
26	✓	✓		183	[163	119	155	169	98	133	149]	179	199	169	164	163	[66	71	131	119	126	130	137	100	119	131	137]	138	0
27	✓	✓	✓	[135	149	146	178	171	168]	171	162	171	174	(171	163)	162	173	169	168	163	160	174	187	189	174	184	184	169	0
28				185	181	179	166	187	213	271	292	294	271	168	158	144	146	148	140	143	147	162	169	193	—	—	—		0
29				—	—	—	—	—	—	—	—	261	247	201	146	157	143	137	119	119	125	144	150	150	160	159	158		0
30				146	138	139	137	133	146	147	164	158	147	135	139	135	(147)	135	143	144	143	153	160	163	173	173	183		0
31				198	199	211	198	217	209	222	222	197	174	143	129	123	—	—	—	}118	142	126	106	135	139	171	188}		0
MEANS * 23 DAYS				193	193	196	199	204	204	210	219	219	208	186	173	169	163	158	159	154	156	159	167	171	180	186	187	184	
MEANS † 18 DAYS				196	196	203	205	211	208	216	223	224	213	194	177	169	162	156	157	152	154	158	166	170	181	188	190	186	
MEANS ‡ 9 DAYS				192	196	204	204	214	216	228	238	239	229	210	191	179	171	163	161	159	158	160	168	174	182	192	190	192	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 180

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				154	147	147	157	161	171	192	216	222	265	246	184	182	177	157	147	158	147	140	151	162	177	190	215		0
2	✓	✓		195	132	151	156	152	152	148	153	172	183	183	162	151	167	(158)	140	128	125	115	126	146	⌈127	129	168⌋	151	1
3	✓	✓	✓	138	125	128	⌈ 73	134⌋	109	115	⌈111⌋	145	145	144	139	139	141	135	130	120	115	102	113	120	131	134	143	126	0
4	✓	✓	✓	138	178	180	180	168	158	183	202	220	202	200	189	175	161	155	141	128	104	116	135	162	161	151	162	165	0
5	✓	✓	✓	168	177	195	187	201	204	225	263	267	221	200	181	187	173	168	157	148	140	135	138	129	140	151	147	179	0
6	✓	✓		140	130	132	134	131	≷144	166≷	95	89	114	122	127	128	129	126	125	119	117	103	109	129	155	167	171	129	1
7	✓	✓		172	147	146	130	127	130	134	139	155	161	151	141	134	141	≷157≷	130	128	117	104	108	107	106	103	132	133	1
8	✓			148	139	≷108	79≷	114	114	107	125	141	139	140	137	143	151	140	146	135	114	102	109	120	134	146	127	127	1
9	✓	✓	✓	118	107	157	189	211	268	299	290	273	248	223	181	171	157	159	(140)	131	122	129	137	155	171	209	234	187	0
10	✓	✓		253	255	273	256	279	251	252	230	198	162	144	146	126	129	128	118	115	113	104	111	116	135	149	152	175	1
11				155	140	133	127	134	135	146	146	170	173	155	158	155	157	155	142	132	118	114	129	139	189	205	194		1
12				202	⌈212	283	212	264⌋	255	232	221	242	230	210	193	187	178	169	164	155	141	127	134	157	187	205	206		0
13	✓	✓		231	245	303	341	365	356	347	326	276	212	175	≷149	131≷	146	138	139	127	129	130	129	106	≷119≷	119	118	202	1
14	✓	✓		104	109	107	116	104	106	102	96	125	135	146	148	157	151	151	147	132	118	118	126	137	167	168	183	131	0
15	✓	✓	✓	182	180	195	202	199	182	191	180	219	223	183	166	170	159	148	141	129	131	⌈120⌋	135	140	141	147	151	167	0
16	✓	✓	✓	166	173	200	217	224	220	235	226	253	265	251	215	168	159	(146)	143	137	111	114	116	101	117	130	149	176	0
17	✓			158	≷158	159	126≷	115	118	116	118	120	≷101	96	106	114	116≷	135	135	(133)	130	124	119	115	124	129	126	125	2
18	✓	✓	✓	127	128	⌈120	90	115	102⌋	149	148	170	173	164	161	160	158	157	156	148	144	138	141	139	130	146	⌈102⌋	140	0
19				—	—	—	—	—	—	—	—	—	226	201	200	181	189	190	194	183	169	152	145	⌈138	93	84	96⌋		0
20	✓			⌈115	130⌋	151	147	158	159	159	187	243	280	227	210	189	173	175	174	168	159	129	134	⌈111	104	122	139⌋	164	0
21	✓	✓		178	186	191	188	191	204	224	240	277	282	266	232	225	207	175	159	140	135	146	184	189	191	≷185	211≷	200	0
22	✓			≷191	227	231	255	225	213≷	194	211	174	170	≷173	192	171≷	168	152	143	135	128	135	≷129	120	162	180	162≷	177	2
23	✓			≷137	54	81	84	124≷	161	162	159	186	176	162	161	156	161	(149)	140	135	129	125	120	114	115	116	124	135	1
24	✓	✓		103	107	102	86	84	92	102	127	141	165	168	164	164	161	160	145	148	141	133	114	106	127	124	114	128	0
25	✓	✓	✓	111	120	117	125	106	87	107	116	172	188	200	183	171	162	159	149	140	130	142	125	117	138	140	137	139	0
26	✓	✓		130	⌈103	60	78	99	70	103	129⌋	153	174	164	161	155	⌈ 73	65	114	107	102	107	114	84	106	111	125⌋	112	0
27	✓	✓	✓	⌈113	117	116	115	118	118⌋	122	117	143	148	(160	164)	159	168	155	146	140	129	129	153	147	133	142	146	137	0
28				151	137	135	119	142	177	219	245	267	257	161	141	135	138	137	130	120	116	116	130	151	144	142	176		0
29				178	141	131	132	128	127	145	205	244	234	203	148	156	151	143	129	126	125	128	129	128	—	—	—		0
30				—	—	—	—	—	—	—	—	139	132	135	127	139	151	(128)	129	131	127	127	128	126	116	118	127		0
31				151	175	171	149	168	172	164	192	187	164	151	146	142	—	—	—	≷127	117	95	106	105	106	119	144≷		0
MEANS * 23 DAYS				153	149	157	155	163	162	171	173	187	186	176	166	158	153	147	142	134	125	122	127	127	136	143	149	153	
MEANS † 18 DAYS				143	144	151	150	159	156	170	169	182	179	170	158	151	143	138	132	124	117	115	122	121	132	138	143	146	
MEANS ‡ 9 DAYS				140	145	156	153	164	161	181	184	207	201	192	175	167	160	154	145	136	125	125	133	134	140	150	152	158	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

()=INTERPOLATED []=APPROXIMATE ⌈⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 181

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				90	98	124	136	110	123	136	118	113	118	87	N 57	N 76	82	—	—	—	89	85	95	110	114	104	112		1
2				126	135	123	101	101	94	85	131	112	—	N 54	N 43	N 90	−120	117	111	N 95	102	81	82	42	55	65	60		2
3				N 18	59	48	51	55	58	[79]	148	88	86	—	N 62	102	102	87	78	106	88	108	110	105	101	113	97		1
4				96	111	129	150	136	133	114	122	—	—	100	124	132	120	120	126	134	138	114	100	(114	118)	120	120		0
5	✓	✓		147	157	164	143	157	127	116	91	78	77	94	92	100	98	98	97	98	105	105	96	103	125	123	131	113	0
6	✓	✓	✓	112	106	114	124	123	125	120	123	123	93	89	93	88	80	88	88	100	91	86	79	76	78	86	123	100	0
7	✓	✓	✓	113	97	96	97	98	98	88	88	83	80	78	80	82	90	88	87	86	85	65	82	71	80	82	79	86	0
8				80	82	78	96	92	89	80	91	91	—	—	94	96	94	95	96	96	102	73	63	51	52	68	86		0
9				89	92	98	108	97	92	80	95	Z	75	61	72	71	85	79	79	80	71	N 60	—	—	—	—	Z+		2
10				Z−	Z	Z+	Z+	Z	Z	Z	Z	Z	47	62	—	—	—	—	—	—	—	102	102	97	93	N 85	Z		2
11				133	120	160	215	152	201	124	122	106	86	Z	Z	—	—	—	—	—	102	94	—	—	65	68	57		1
12				87	90	136	113	85	82	85	74	66	72	81	71	48	N 60	78	Z+	N 57	83	58	42	47	63	74	73		1
13				83	92	N100	103	N 62	93	86	107	105	100	92	Z+	Z+	Z+	110	[113]	Z	Z	94	91	90	122	129	122		1
14	✓	✓		107	112	113	110	104	96	93	86	81	(82)	83	80	50	65	N 27	74	(78)	87	85	79	87	102	80	95	86	1
15				—	—	—	—	—	—	—	—	97	86	79	77	90	106	100	118	118	106	98	103	103	114	94	94		0
16				[132	173	221	284	255	Z+	Z+	234]	111	95	(87)	80	88	93	91	96	94	95	87	102	104	109	106	107		0
17				114	137	124	108	90	82	67	55	55	68	[63]	64	42	67	64	Z	Z	N117	71	79	Z	Z	72	101		1
18				101	101	117	124	114	97	92	105	79	70	56	44	68	87	83	Z+	Z+	118	76	[61	59]	86	100	116		0
19				144	125	Z+	Z−	87	137	151	149	143	136	140	103	103	93	96	107	93	88	85	100	104	106	106	109		1
20	✓	✓		120	125	137	153	(144	127)	102	(96)	92	89	81	91	82	93	80	101	121	100	101	102	103	111	132	105	108	0
21	✓	✓	✓	91	88	73	107	109	109	101	90	88	81	75	81	79	86	86	101	101	98	101	108	129	140	142	140	100	0
22	✓	✓	✓	124	124	125	126	105	105	103	101	96	83	78	66	73	77	88	101	116	120	114	114	113	113	107	101	103	0
23	✓	✓	✓	102	119	117	119	102	98	88	76	74	81	85	88	92	90	88	98	90	95	87	94	98	98	95	79	94	0
24	✓	✓	✓	77	80	76	68	67	65	58	60	64	73	71	74	87	87	92	91	92	86	64	64	73	66	67	68	74	0
25	✓	✓	✓	73	65	65	68	64	54	49	63	73	75	77	81	90	96	87	89	88	87	[71]	97	95	83	80	83	77	0
26	✓	✓	✓	74	77	88	83	83	65	60	57	67	79	75	83	94	90	97	92	103	100	88	72	68	71	73	75	80	0
27				—	—	—	—	—	—	—	—	96	92	105	93	100	109	127	[113]	121	112	112	92	98	116	100	95		0
28	✓	✓		[76	62	85	93	76	95	108]	107	98	87	79	75	83	80	87	79	83	88	92	92	95	102	97	101	88	0
29	✓	✓	✓	107	110	98	97	97	87	75	83	79	85	93	88	92	106	105	110	109	109	105	123	143	153	159	164	107	0
30	✓	✓	✓	148	149	132	128	109	86	64	63	62	67	79	79	77	81	80	88	81	86	68	71	83	86	83	73	88	0
31																													
MEANS * 14 DAYS				105	105	106	108	103	96	88	85	83	81	81	82	84	87	85	93	96	96	88	91	96	101	100	101	93	
MEANS † 14 DAYS				105	105	106	108	103	96	88	85	83	81	81	82	84	87	85	93	96	96	88	91	96	101	100	101	93	
MEANS ‡ 10 DAYS				102	102	98	102	96	89	81	80	81	80	80	81	85	88	90	94	97	96	85	90	95	97	97	98	91	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 182

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	741.5	14.5	95	18.9	10.1	0.07	2.2	NW	5	NNW	3	WNW	12	NW	3	Cu; Nb	7-10	Cu; Nb	7-10	Frequent showers
2	735.9	16.3	68	17.9	9.0	0.07	3.4	NNW	3	NW	12	NW	13	SW	4	ACu; ASt; Cu; Nb	7-10	ACu; ASt; Cu; Nb	7-10	Showers at intervals
3	745.3	11.2	93	14.8	6.7	0.21	1.6	..	0	NW	1	SSW	4	SSW	2	ACu; Cu; Nb	7-10	ACu; Cu; Nb	8- 4	Fog or mist early; showers at intervals; clear in evening
4	750.1	12.0	62	17.8	2.6	0.05	10.6	S	1	ESE	5	ESE	5	SSE	4		0		0	
5	748.0	14.9	53	24.0	3.0		10.3	S	3	..	0	N	1	S	9		0		0	Dew early
6	749.1	14.8	49	21.9	7.2		10.4	SSE	5	ESE	15	ESE	13	SE	5		0		0	
7	748.6	14.3	58	22.4	8.3		9.9	E	13	ENE	15	ENE	12	ESE	3	CiSt	4- 6	CiSt	4- 6	
8	744.8	16.8	50	24.7	7.7		10.4	..	0	NE	15	ENE	10	ENE	2		0		0	Cloudy at night
9	741.8	20.3	46	28.3	14.7		1.7	NE	10	NNE	8	NNE	14	NNE	5	ACu	9-10	ACu	9-10	Few drops rain at night, with lightning
10	741.0	18.9	72	24.6	14.4	0.03	2.4	WNW	1	N	1	WNW	14	NNW	3	ACu; Cu; FrCu	7-10	ACu; Cu; FrCu	7-10	Somewhat threatening
11	739.6	16.2	83	21.0	12.5	0.03	6.3	N	2	NW	18	WNW	20	..	0	Nb	7-10	Nb	7-10	Afew light showers during day; clearing in evening
12	742.5	14.8	86	20.5	8.5	0.08	4.4	NW	2	N	2	NW	4	..	0	ASt; Cu; Nb	7- 8	ASt; Cu; Nb	7- 8	Occasional showers
13	740.4	14.0	73	17.1	9.6	0.07	4.8	W	5	NNE	3	NW	8	NNE	4	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7-10	Frequent showers
14	741.1	13.7	75	17.6	3.6	0.03	4.4	NW	1	NNW	3	WNW	7	NW	4	Cu; Nb	6-10	Cu; Nb	7-10	Occasional showers
15	742.7	15.6	77	20.6	10.6	0.03	6.0	NNW	2	W	7	WSW	8	S	2	Cu; CuNb	7- 8	Cu	7- 8	
16	745.4	14.1	82	22.6	5.6	T	10.6	..	0	ESE	3	E	6	SE	4	FrCu	2- 6	FrCu	4- 6	Fog until 8h
17	741.9	16.6	62	23.7	9.8		3.0	SE	4	E	6	ESE	9	E	10	ACu; ASt	7- 8	ACu; StCu; Nb	7- 8	Thunder and lightning in evening; rain at night
18	736.0	16.9	82	22.4	10.1	0.46	4.4	SE	2	SE	3	WSW	4	WSW	3	ACu; StCu; Nb	4- 8	ACu; StCu; Nb	4- 6	Rain in early hours; rain at night
19	735.7	14.5	77	18.7	10.7	0.11	6.0	SW	7	WNW	7	W	17	W	6	Cu; StCu; Nb	7- 8	Cu; StCu; Nb	7- 8	Rain in early hours
20	739.4	13.9	73	18.7	11.0	0.02	4.0	W	6	SSW	7	S	7	S	3	Cu; StCu; CuNb	9- 4	Cu; StCu; CuNb	4- 6	Rain in early hours, or late previous night
21	742.3	12.1	75	17.6	7.1		4.0	S	2	ESE	1	SSE	6	SSE	6	ACu; Cu; StCu	4- 7	ACu; Cu; StCu	4- 6	Dew early
22	746.4	12.0	62	17.2	5.7		8.1	ESE	5	ESE	13	ESE	12	SSE	4	Cu	7- 1	Cu	1- 3	
23	748.4	13.0	55	19.5	4.2		10.7	SSE	3	ENE	11	E	6	ESE	4		0		0	Dew early
24	749.4	15.6	55	22.2	4.5		10.9	NE	5	NNE	9	NE	6	E	1		0		0	
25	747.7	17.1	39	26.2	4.0		10.3	NNW	1	N	4	NE	1	S	3	Ci; CiSt	1- 3	Ci; CiSt	1- 3	
26	744.1	20.5	25	27.4	4.5		11.0	S	1	N	5	N	6	SE	2	CiCu	1- 3	CiCu	1- 3	Dew early
27	739.9	19.5	61	24.6	4.1		10.9	..	0	W	7	WSW	11	W	2	FrCu	1- 3	FrCu	1- 3	
28	742.8	16.7	69	19.5	12.7		2.8	W	2	SW	9	WSW	13	WSW	1	Cu; Nb	7-10	Cu; Nb	7-10	Dew early
29	750.4	14.0	57	21.2	5.5		9.1	S	2	ESE	9	ESE	7	SSE	6	Cu; StCu	4- 6	Cu; StCu	1- 3	
30	752.2	18.7	39	25.8	6.1		11.0	SSE	6	ENE	10	ENE	10	ESE	5		0		0	Dew early
31																				
SUM						1.26														
MEAN	743.8	15.4	65	21.3	7.8		6.8	3.3		7.1		8.9		3.7						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 183

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			182	179	158	162	149	155	149	159	167	139	130	137	117	97	118	121	134	125	135	150	143	139	134	146	143	1
2				144	149	161	183	162	169	162	169	152	80	66	114	105	76	—	—	—	—	—	—	—	—	—	—		2
3				—	—	—	—	—	—	—	—	—	—	—	—	—	133	143	145	141	146	151	154	158	170	177	194		1
4	✓			209	206	203	179	169	173	168	169	185	167	154	126	100	113	118	103	100	96	95	121	122	142	146	159	147	0
5	✓	✓		138	143	155	170	177	197	201	239	257	265	210	202	197	188	185	173	(177	167)	155	154	135	120	124	(122)	177	0
6	✓	✓	✓	133	156	159	161	165	161	166	165	167	181	204	196	159	(138)	142	147	142	133	124	146	151	159	163	121	156	0
7	✓	✓	✓	140	178	197	212	210	220	223	230	209	192	194	184	174	170	169	167	157	161	165	135	187	174	200	225	186	0
8				232	231	255	208	233	231	232	213	182	173	166	—	—	—	—	—	—	—	—	—	—	—	213	201		0
9				201	197	204	209	215	218	218	222	222	198	180	143	160	143	139	135	134	143	143	143	—	—	—	172		2
10	✓			143	193	160	172	195	171	209	142	202	225	171	104	120	99	100	89	118	(129)	129	131	(142)	146	154	118	148	2
11	✓			140	146	139	142	153	115	129	111	48	45	64	56	49	45	55	49	86	122	134	146	168	165	172	198	112	1
12	✓			172	157	143	143	157	175	[165]	215	222	212	(186)	173	160	155	154	140	138	154	169	179	169	190	215	212	173	1
13	✓			216	212	158	160	158	154	155	160	157	157	142	135	117	(140)	168	142	85	90	149	147	146	143	143	146	149	1
14	✓	✓		161	166	153	168	182	[173	155]	212	217	194	160	154	135	136	130	(121	122	117)	135	118	(129)	127	139	153	152	1
15	✓			154	144	169	160	153	154	157	155	139	142	143	118	131	131	127	139	131	134	130	149	153	149	154	158	145	0
16	✓			[105	85	73	65	94	76	69	90]	151	176	193	195	179	(164)	173	180	169	169	175	144	155	154	160	169	140	0
17				175	173	201	213	226	250	263	280	280	277	266	239	212	200	187	136	187	186	155	164	161	225	232	189		1
18	✓			183	191	193	201	200	212	212	216	247	241	234	213	201	208	193	186	166	160	164	161	166	169	160	155	193	0
19	✓			139	153	138	134	147	135	146	153	140	140	127	86	76	82	104	91	101	131	118	140	136	143	142	147	127	1
20	✓	✓		154	150	144	158	146	157	158	160	166	158	158	157	149	155	147	139	131	124	126	125	129	113	111	139	144	0
21	✓	✓	✓	164	158	155	166	175	168	169	173	171	169	168	162	146	146	146	143	140	143	153	154	127	118	104	109	151	0
22	✓	✓	✓	127	146	154	160	172	172	168	157	154	153	(146)	149	142	127	130	120	103	101	118	125	135	140	142	151	141	0
23	✓	✓	✓	157	154	171	172	194	195	202	236	212	221	198	172	154	146	149	139	135	147	127	130	139	124	160	212	169	0
24	✓	✓	✓	215	248	263	263	250	249	276	290	231	205	186	176	169	157	154	151	147	157	158	155	168	193	209	222	204	0
25	✓	✓	✓	213	239	247	253	247	258	262	252	221	202	189	175	161	158	157	157	158	153	143	143	154	162	164	168	193	0
26	✓	✓	✓	171	180	183	187	173	182	212	250	248	224	222	197	169	168	155	144	143	142	142	168	197	206	213	216	187	0
27				241	268	302	351	352	329	374	363	191	161	135	121	124	(118)	108	101	105	112	129	143	131	127	130	154		0
28	✓	✓		154	155	143	144	147	143	158	142	129	127	129	129	129	126	120	125	125	127	129	143	154	142	136	135	137	0
29	✓	✓	✓	134	139	142	143	143	164	166	160	164	146	142	129	112	101	100	104	112	115	113	111	103	99	99	86	126	0
30	✓	✓	✓	86	91	104	122	144	187	236	273	268	257	225	212	189	183	172	160	164	169	172	146	144	153	169	186	176	0
31																													
MEANS * 24 DAYS				158	165	163	167	171	173	180	188	186	181	170	156	143	139	140	135	133	136	140	143	148	149	155	161	158	
MEANS † 14 DAYS				153	164	169	177	180	188	197	210	201	192	181	171	156	150	147	142	140	140	140	140	147	145	152	160	164	
MEANS ‡ 10 DAYS				154	169	178	184	187	196	208	219	204	195	187	175	158	149	147	143	140	142	142	141	150	153	162	170	169	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 184

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			146	152	128	129	125	124	125	129	146	135	129	138	127	114	129	125	129	126	130	130	119	126	126	125	130	1
2				117	107	133	133	125	148	135	146	143	90	72	—	—	—	—	—	—	—	—	—	—	—	—	—		2
3				—	—	—	—	—	—	—	—	—	—	—	—	141	129	(134	135)	125	127	115	100	106	119	114	135		1
4	✓			136	133	113	88	97	93	115	119	173	172	157	124	99	110	117	104	95	84	78	96	86	104	113	116	113	0
5	✓	✓		94	98	114	125	128	165	175	218	226	248	205	(190)	180	177	168	169	168	(145)	147	147	119	(106	96)	98	154	0
6	✓	✓	✓	117	116	114	120	125	127	136	150	162	190	(203	176)	159	161	(156)	148	(146	135)	110	114	121	(137	157)	110	141	0
7	✓	✓	✓	131	181	190	204	198	192	196	200	199	200	199	186	177	170	(168)	167	164	150	148	123	158	135	158	188	174	0
8				194	190	196	159	186	190	197	196	164	163	166	173	160	166	160	—	—	—	—	—	—	—	—	—		0
9				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	176	—	—	175		2
10	✓			172	167	121	135	163	174	159	149	240	221	158	107	121	127	106	110	121	(133)	116	108	(116)	125	136	141	143	2
11	✓			121	112	98	100	117	103	112	110	66	84	86	70	66	60	72	68	98	114	120	119	135	150	155	184	105	1
12	✓			156	147	110	98	126	119	[127]	177	211	202	181	174	149	148	153	133	(132)	128	124	128	144	142	160	183	148	1
13	✓			191	183	144	120	117	90	76	106	124	138	138	102	98	132	(109)	86	95	95	112	110	109	99	100	102	116	1
14	✓	✓		119	118	114	117	127	[140	124]	168	186	157	149	147	145	133	135	(125	120	114)	119	112	(119)	118	122	133	132	1
15	✓			114	114	126	124	105	114	120	133	141	142	141	135	140	135	127	119	114	114	105	(116	117)	111	114	119	122	0
16	✓			[62	46	44	49	53	45	45	58]	146	168	195	199	177	163	168	168	155	156	148	119	125	119	119	120	119	0
17				134	131	146	165	190	207	236	257	270	277	268	241	218	202	187	151	158	156	142	160	—	—	243	173		1
18	✓			148	157	144	139	159	178	175	182	229	233	206	195	174	164	175	146	(127)	142	152	148	142	144	140	121	163	0
19	✓			91	114	120	160	120	96	106	125	128	122	119	112	98	106	115	111	117	126	117	120	121	121	126	129	118	1
20	✓	✓		122	120	119	120	119	116	125	130	133	153	153	151	151	148	148	130	107	98	101	93	105	93	72	112	122	0
21	✓	✓	✓	126	130	142	140	128	119	134	163	163	168	163	161	140	140	140	135	127	131	132	132	100	94	85	86	132	0
22	✓	✓	✓	107	124	133	139	119	117	128	149	154	153	(142)	141	136	131	135	121	100	97	100	98	101	105	105	110	123	0
23	✓	✓	✓	121	118	122	138	141	153	169	221	203	224	210	185	157	149	142	136	142	141	114	111	112	112	146	201	153	0
24	✓	✓	✓	204	224	230	216	210	230	256	278	235	216	183	180	162	150	142	136	131	133	140	140	141	170	180	189	186	0
25	✓	✓	✓	187	203	244	257	231	252	266	244	217	214	197	161	153	145	147	139	133	124	119	114	124	130	148	134	178	0
26	✓	✓	✓	148	156	147	155	155	155	174	228	246	221	216	188	163	161	142	141	140	128	120	143	174	154	174	183	167	0
27				204	238	—	—	—	—	—	—	189	166	136	135	126	114	104	103	98	103	100	103	93	101	106	114		0
28	✓	✓		114	118	109	105	106	104	119	114	112	122	125	133	133	128	124	119	119	110	104	99	111	115	121	109	116	0
29	✓	✓	✓	113	94	101	107	102	126	141	135	154	148	147	134	114	101	98	106	105	106	88	79	85	77	70	58	108	0
30	✓	✓	✓	69	72	82	91	114	168	215	275	280	267	234	209	199	187	176	161	168	163	157	124	126	123	134	154	164	0
31																													
MEANS * 24 DAYS				130	133	130	132	133	138	147	165	178	179	168	154	142	139	137	129	127	125	121	118	121	121	127	134	139	
MEANS † 14 DAYS				127	134	140	145	143	155	168	191	191	192	180	167	155	149	144	138	134	127	121	116	121	119	126	133	146	
MEANS ‡ 10 DAYS				132	142	150	157	152	164	182	204	201	200	189	172	156	150	145	139	136	131	123	118	124	124	136	141	153	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 185

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	70	73	74	71	65	63	65	78	73	76	77	90	83	71	75	82	79	73	64	73	83	87	95	88	76	0
2	✓	✓	✓	92	92	81	90	102	93	77	90	89	85	88	77	80	86	86	86	82	92	73	70	71	70	68	68	83	0
3	✓	✓	✓	96	94	97	95	90	103	90	91	88	88	80	91	81	78	94	94	96	101	65	60	74	80	71	64	86	0
4	✓	✓	✓	70	70	74	77	74	66	66	68	78	81	88	89	94	87	79	83	79	91	88	86	78	66	70	74	78	0
5	✓	✓		80	88	87	[73	66	71	47	57]	60	60	67	72	72	70	71	70	72	73	72	79	77	88	89	⌈ 110]	74	0
6				⌈118	135	127	92	67	49	N 88]	90	88	89	76	82	87	67	83	Z	Z	Z	Z+	N 75	73	Z-	90	97		1
7				Z+	Z	Z+	133	140	Z	137	128	97	97	63	67	—	—	—	—	—	—	—	—	—	—	—	—		1
8				—	—	—	—	—	—	—	—	—	101	[106	117]	120	120	125	120	126	113	92	113	⌈146	169	201	188]		0
9	✓	✓		⌈165	138	142]	110	102	81	70	57	64	64	72	77	89	100	101	109	118	111	96	94	107	148	132	114	103	0
10	✓	✓	✓	125	123	124	122	108	86	73	67	59	57	65	78	77	91	89	98	113	117	114	104	[102]	111	114	107	97	0
11				118	162	—	—	—	—	—	135	117	118	100	100	92	91	102	107	117	122	126	132	132	125	125	126		0
12	✓	✓		137	147	149	⌈131	116	158	131]	114	96	101	121	106	113	113	132	129	125	122	114	91	73	88	114	119	118	0
13	✓	✓		146	148	142	188	169	129	144	150	112	120	103	94	93	93	100	101	101	97	97	94	N 89	126	124	154	121	1
14				141	127	122	107	125	136	143	154	143	N 83	N107	N111	—	—	—	—	—	—	—	—	—	—	—	—		1
15				—	—	—	—	—	—	—	—	—	104	[105	100]	85	80	96	96	94	87	85	92	97	104	93	90		0
16				82	—	—	—	—	—	74	76	88	90	93	106	93	93	98	101	100	100	105	103	106	108	(107	105)		0
17	✓	✓		93	88	89	⌈107	80]	56	64	88	106	105	112	102	109	108	110	109	122	98	90	90	122	144	159	123	103	0
18	✓	✓	✓	124	150	116	105	82	82	78	86	91	79	85	85	78	79	79	101	91	87	97	102	118	102	106	104	96	0
19	✓	✓	✓	82	105	112	114	107	98	91	93	93	81	73	86	92	86	85	88	91	107	98	86	94	96	107	114	95	0
20	✓	✓		110	110	[93	77	62	57	81	68]	59	70	77	85	81	85	80	81	90	82	66	68	87	109	110	119	84	0
21				101	101	98	90	68	60	62	66	78	88	92	100	—	—	—	—	—	—	—	—	—	—	—	—		0
22				—	—	—	—	—	—	—	—	—	[87	95]	90	100	107	119	126	125	113	113	107	107	90	92	97		0
23	✓	✓	✓	⌈ 91	107	113	113	102	72]	62	79	86	86	83	88	89	97	97	101	103	96	89	82	92	91	71	75	90	0
24				92	85	—	—	—	—	—	—	81	77	75	74	71	77	67	68	81	97	117	122	117	122	119	98		0
25	✓	✓	✓	94	116	107	97	88	82	89	110	88	96	98	105	94	101	109	117	103	95	95	86	98	110	98	75	98	0
26				—	—	—	—	—	—	—	—	91	80	85	82	78	81	78	85	83	78	60	⌈ 90	144	159	164	182]		0
27				⌈197	201	183	144	117	96	76	63]	68	68	77	71	71	68	70	77	66	70	71	80	97	—	—	113		0
28				110	121	107	112	110	89	91	107	101	100	97	102	—	—	—	—	—	—	—	—	—	—	—	—		0
29				—	—	—	—	—	—	—	—	—	[97	91]	102	101	92	109	107	110	102	101	110	112	106	116	123		0
30				118	112	106	97	[77]	59	80	109	N 70	Z	N107	98	111	121	117	106	110	121	113	113	121	128	132	114		1
31	✓	✓	✓	118	122	110	100	90	92	124	119	117	104	103	96	95	91	105	106	101	98	95	100	101	105	111	114	105	0
MEANS * 16 DAYS				106	111	107	104	94	87	84	88	85	85	87	89	89	90	93	97	98	96	88	85	92	101	102	101	94	
MEANS † 16 DAYS				106	111	107	104	94	87	84	88	85	85	87	89	89	90	93	97	98	96	88	85	92	101	102	101	94	
MEANS ‡ 10 DAYS				96	105	101	98	91	84	82	88	86	83	84	88	86	87	90	96	94	96	88	85	91	92	91	88	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 186

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	750.2	21.1	34	27.6	7.0		10.9	ESE	2	ENE	13	E	6	SE	5		0		0	
2	748.5	21.2	41	28.1	8.8		11.0	ESE	2	NE	13	ENE	12	E	4		0		0	
3	748.3	21.5	36	29.2	12.0		11.1	NE	6	NNE	13	NE	7	..	0		0		0	
4	746.4	22.8	26	32.0	9.3		11.2	..	0	N	8	N	1	S	3		0		0	
5	741.5	23.2	28	31.8	6.7		11.2	S	1	N	3	WNW	14	SSW	1	ASt	0- 1	ASt; ACu	1- 3	Overcast in evening with ACu
6	740.5	18.8	59	22.3	10.5	·	4.1	..	0	WNW	1	WSW	6	S	1	CiCu; ACu; FrCu	4- 9	Cu; FrCu; Nb	7- 9	Dew early; lightning at 15^h; rain at 17^h
7	740.8	12.7	87	18.1	9.9	0.25	5.6	NNW	3	SW	15	SSW	11	S	2	Cu; FrCu; Nb	7-10	Cu; FrCu; Nb	7-10	Occasional light showers
8	745.2	12.8	61	20.2	4.1	0.01	11.3	SSE	3	ESE	9	ESE	4	S	4	FrCu	1- 3		0	Dew early
9	741.1	19.1	51	27.3	5.8		11.3	S	2	NE	8	NE	2	S	7		0		0	Dew early
10	734.2	19.1	49	25.5	9.7		9.9	S	5	ENE	2	SW	11	WSW	1	Cu	0- 1	Cu; FrCu; ACu	1-10	Thin haze over sky at 9^h
11	738.6	17.8	67	23.7	10.8		6.6	SW	2	S	8	SSW	8	SSW	2	Cu; FrCu	8- 4	Cu; FrCu	3- 1	Dew early
12	739.6	17.2	64	24.2	5.3		11.0	SW	2	..	0	W	9	WNW	1	FrCu	1- 3	FrCu	1- 3	Dew, probably fog, early
13	738.4	14.6	92	21.1	9.4	0.06	3.4	WNW	5	SW	8	W	8	WNW	4	ACu; Cu; Nb	7-10	Cu; Nb	7-10	Rain in early hours and in evening
14	738.3	17.9	59	30.4	10.5	0.03	6.2	NNW	3	W	18	WSW	18	W	1	Cu; Nb	7-10	Cu; Nb	7-10	Occasional light showers
15	744.2	17.6	52	22.7	9.2	0.03	7.4	..	0	SW	6	SW	5	SSW	2	ACu; Cu	6- 1	ACu; Cu	1- 3	
16	744.6	18.0	61	26.6	4.0		11.6	..	0	SE	1	W	2	S	5	FrCu	1- 3	FrCu	1- 3	Dew early; thin haze at 9^h
17	742.9	18.8	57	24.5	6.7		8.0	..	0	S	4	SW	11	SSW	4	FrCu; Cu	4- 6	FrCu; Cu	4- 6	Light rain in evening
18	743.9	16.0	60	20.7	8.2	0.01	5.1	..	0	SSE	1	SW	12	SSW	4	FrCu; Cu	9-10	FrCu; Cu	8- 4	
19	746.6	14.6	53	20.1	6.2		5.5	SSW	1	SSE	6	S	8	S	5	Cu; FrCu	4- 6	Cu; FrCu	7- 8	Dew early
20	747.6	17.3	40	24.0	5.0		11.1	S	4	E	8	E	5	SE	5	CiCu; CiSt	1- 3	CiCu; CiSt	4- 6	Dew early
21	742.2	23.1	24	29.5	8.0		11.0	SSE	2	NNE	11	WNW	4	SSW	4	CiSt	1- 3	CiSt	4- 6	
22	741.5	19.6	56	26.7	5.2		10.5	..	0	SSW	3	WSW	3	SW	2	CiSt; FrCu	1- 3	CiSt	0- 1	Fog early
23	742.5	19.0	61	25.2	11.1		8.3	..	0	W	2	WSW	9	..	0	CiSt; ACu; StCu	7- 8	CiSt; ACu; StCu	7- 8	
24	740.2	20.0	63	22.9	10.3		4.1	..	0	W	12	W	16	SW	3	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7-10	Light showers at intervals
25	745.1	15.1	61	20.3	7.0	0.02	5.4	SW	2	SSW	7	SSW	9	S	2	Cu; StCu; Nb	7- 9	Cu; StCu; Nb	7- 8	
26	746.5	17.0	52	26.7	7.4		12.0	SE	2	E	12	ESE	3	S	6	FrCu	0- 1	FrCu	0- 1	
27	740.0	25.7	25	34.0	9.4		10.4	S	2	NNE	11	WNW	8	SW	4	CiCu; CiSt; ASt	1- 3	CiSt; FrCu	7- 8	
28	737.6	18.7	70	21.2	14.7		1.8	SSW	7	SW	11	WSW	12	WSW	8	CiSt; Cu; Nb	7-10	Cu; Nb	7-10	Occasional showers during day; rain at night
29	742.0	14.8	77	21.1	10.8	0.03	5.7	WSW	6	SW	10	SW	9	SW	2	Cu; Nb	9-10	Cu; FrCu	7- 8	Light showers in am
30	742.7	14.2	90	19.4	5.8	0.08	6.0	WSW	1	W	5	SW	12	SSW	2	Nb	10	Cu; Nb	7- 9	Heavy showers in am
31	745.5	16.3	52	21.3	6.9	0.09	10.4	SW	2	SSE	9	S	11	SSW	4	Cu; FrCu	3- 6	Cu; FrCu	4- 6	
SUM						0.61														
MEAN	742.8	18.2	55	24.5	8.2		8.4		2.1		7.7		8.3		3.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	222	241	241	253	257	253	262	238	224	201	195	189	183	172	162	171	158	162	166	160	169	168	173	176	200	0
2	✓	✓	✓	195	200	238	241	238	241	266	225	198	184	171	165	162	160	169	162	160	164	178	175	197	213	238	238	199	0
3	✓	✓	✓	236	235	229	234	239	221	222	204	173	158	(164)	171	170	173	173	164	157	160	177	183	194	195	212	218	194	0
4	✓	✓	✓	225	238	266	266	259	258	249	252	211	205	187	171	168	(169)	162	152	152	149	141	160	177	194	200	212	201	0
5	✓	✓		207	196	195	216	236	228	290	287	241	237	208	158	146	109	108	106	116	130	149	164	159	153	153	⌈120]	180	0
6				⌈94	81	83	131	168	138	140]	153	145	140	141	143	142	140	138	≷103	107	116	158	169≶	—	—	—	—		1
7				—	—	—	—	—	—	—	—	—	139	142	145	149	145	122	93	114	134	141	148	142	137	138	140		1
8	✓			149	153	171	193	207	212	213	222	196	150	113	85	88	83	73	81	83	97	115	115	⌈108	96	92	88]	133	0
9	✓	✓		⌈103	124	131]	153	177	205	247	300	273	252	198	173	163	152	140	118	102	106	128	153	153	120	130	160	165	0
10	✓	✓	✓	164	168	183	193	214	224	249	297	336	323	308	278	246	217	189	149	138	129	128	130	130	126	129	126	199	0
11	✓			122	126	120	121	125	115	117	117	125	131	130	142	143	(135)	128	128	126	125	130	138	131	137	139	151	129	0
12	✓	✓		153	150	151	⌈161	152	118	150]	182	173	156	140	140	131	131	129	117	115	116	126	138	141	152	150	154	143	0
13	✓	✓		152	153	130	129	131	121	118	137	144	144	140	131	129	129	131	129	117	120	130	138	126	138	137	129	133	1
14	✓			131	139	149	152	148	138	131≶	121	99	104	123	94	64	61	68	75	91≶	106	124	129	126	129	141	142	116	1
15	✓			146	148	150	142	161	171	173	145	138	138	142	140	143	142	139	134	135	132	129	141	157	159	169	177	148	0
16	✓			184	⌈195	236	222	198	184	205]	196	166	161	164	157	143	135	139	128	131	129	126	126	130	138	149	142	162	0
17	✓	✓		151	159	161	⌈126	161]	239	236	196	140	141	140	135	140	137	120	121	130	131	131	139	129	126	126	126	148	0
18	✓	✓	✓	129	141	145	158	168	173	196	185	175	165	164	164	152	(154)	142	128	134	131	143	140	149	150	151	162	154	0
19	✓	✓	✓	161	156	158	164	159	168	181	164	163	151	154	153	152	144	145	150	126	116	116	135	139	151	148	140	150	0
20	✓	✓		130	115	117	126	131	159	205	263	278	248	208	194	189	186	185	178	178	177	182	177	177	166	177	184	180	0
21	✓			194	211	224	246	267	278	287	260	204	158	⌈149	94]	156	156	152	161	162	158	149	153	150	150	144	133	183	0
22	✓			132	⌈146	88	107	106	105	129	121]	166	162	158	151	153	145	142	140	130	121	128	137	148	171	154	157	137	0
23	✓	✓	✓	⌈165	141	125	120	89	151]	187	154	132	133	137	130	132	128	125	124	125	126	125	124	135	139	142	146	135	0
24	✓			150	178	192	218	236	256	256	189	≷133	99	113	91	100	92	98	107≶	102	113	117	124	123	129	135	148	146	0
25	✓	✓	✓	156	153	151	158	171	177	173	157	142	149	149	141	139	(137)	137	135	133	131	142	148	150	138	146	154	149	0
26	✓			163	161	165	173	195	194	200	173	172	185	194	183	170	164	154	153	157	174	173	⌈150	105	98	97	94]	160	0
27	✓			⌈104	105	115	129	145	151	196	267]	220	200	194	184	171	156	134	156	171	184	194	193	177	168	182	178	170	0
28	✓			161	144	140	138	130	126	117	120	120	128	124	130	124	131	133	126	132	140	140	141	134	130	131	128	132	0
29	✓			149	151	150	142	138	159	164	153	168	150	128	134	138	132	141	134	139	140	142	150	152	173	169	177	149	0
30	✓			174	175	200	182	207	245	231	173	153	≷124≶	129	124	121	120	125	129	118	126	129	139	139	132	130	139	153	1
31	✓	✓	✓	144	151	153	159	153	158	151	140	144	140	130	129	131	125	117	120	129	133	137	141	148	150	149	151	141	0
MEANS * 29 DAYS				160	164	168	173	179	187	200	194	180	168	160	149	146	141	137	134	133	135	141	146	147	148	151	153	158	
MEANS † 16 DAYS				168	170	173	179	183	193	211	211	197	187	175	164	158	151	146	139	136	136	144	150	155	155	160	162	167	
MEANS ‡ 10 DAYS				180	182	189	195	195	202	214	202	190	181	176	169	164	158	152	146	141	140	145	150	159	162	169	172	172	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 188

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	193	206	205	214	235	235	231	236	244	221	204	184	190	177	172	165	156	160	146	137	135	140	139	156	187	0
2	✓	✓	✓	157	170	198	214	200	212	237	219	172	200	173	178	177	170	165	165	162	152	162	170	182	188	205	210	185	0
3	✓	✓	✓	199	212	207	195	190	196	196	183	171	166	158	159	160	165	156	149	137	121	149	161	152	156	179	184	171	0
4	✓	✓	✓	201	221	242	249	245	249	228	230	210	197	177	165	152	156	(152)	131	135	117	116	120	141	157	165	165	180	0
5	✓	✓		163	168	160	178	190	210	256	248	230	235	204	163	152	136	124	124	122	120	118	124	117	118	114	[68]	160	0
6				[62	66	67	94	130	95	116]	137	132	135	135	125	135	126	124	} 76	72	69	88	107	112	143 }	108	108		1
7				} 110	98	123 }	128	135	} 122 }	115	113	130	140	156	149	144	138	115	92	104	128	123	112	102	104	93	100		1
8	✓			109	116	115	137	144	172	177	214	187	150	104	85	82	77	65	74	75	86	91	89	[88	79	65	60]	110	0
9	✓	✓		[67	94	95]	124	144	174	214	262	256	235	186	163	149	127	116	102	75	88	97	136	135	100	97	124	140	0
10	✓	✓	✓	135	149	151	160	164	187	207	269	[314	305	291]	266	239	200	166	134	123	117	113	107	100	95	95	101	174	0
11	✓			95	88	74	86	85	78	79	100	106	109	128	123	127	130	(115)	113	114	105	100	94	90	81	88	100	100	0
12	✓	✓		102	95	94	[114	112	82	109]	149	138	136	132	139	138	137	124	115	107	108	102	106	123	114	114	114	117	0
13	✓	✓		98	102	110	101	102	94	93	98	110	123	128	135	129	123	122	121	114	108	114	112	116	105	108	102	111	1
14	✓			95	98	106	121	108	95	114	108	100	105	114	96	93	88	90	91	90	94	94	94	97	100	116	109	101	1
15	✓			107	107	97	102	109	123	122	114	112	113	123	128	140	128	122	121	116	117	100	100	104	109	117	129	115	0
16	✓			150	[144	174	170	191	182	179]	157	135	127	135	130	132	130	122	114	114	109	100	98	102	104	109	101	134	0
17	✓	✓		110	126	124	[67	124]	179	193	146	114	116	121	127	130	126	114	116	109	109	108	107	90	93	82	89	118	0
18	✓	✓	✓	95	87	73	87	106	117	148	142	127	136	134	136	136	135	(123)	109	114	107	109	108	95	97	87	100	113	0
19	✓	✓	✓	124	104	84	89	86	112	134	135	137	143	140	143	136	135	133	129	104	94	93	112	110	116	107	100	117	0
20	✓	✓		95	86	86	81	94	114	176	248	266	237	202	179	174	175	165	160	144	150	144	130	135	131	136	130	152	0
21	✓			149	151	165	182	216	228	228	224	172	146	[129	81]	142	141	132	141	141	137	123	123	121	115	99	93	149	0
22	✓			87	[88	71	68	73	94	106	108]	146	149	144	(137)	138	137	133	122	123	110	96	98	99	105	120	107	111	0
23	✓	✓	✓	[131	90	72	64	74	109]	152	138	114	110	120	123	120	119	113	114	109	109	101	92	79	88	117	128	108	0
24	✓			117	137	157	173	205	213	221	168	} 124	105	113	103	109	102	112	109 }	94	96	87	88	77	78	79	85	123	0
25	✓	✓	✓	103	106	93	98	122	127	127	115	119	127	126	124	115	119	(114)	110	116	120	108	120	106	102	119	93	114	0
26	✓			97	102	97	102	134	149	169	162	157	177	191	173	159	152	141	143	145	143	139	[124	77	86	79	75]	132	0
27	✓			[67	70	78	86	108	129	162	139]	203	188	180	177	176	165	150	148	154	163	166	158	138	139	139	127	142	0
28	✓			138	111	113	106	97	98	104	109	98	107	113	109	112	115	109	112	117	120	115	112	116	105	88	94	109	0
29	✓			94	89	94	92	95	99	109	109	109	111	120	117	120	120	117	112	110	108	119	78	91	109	109	111	106	0
30	✓			114	123	131	119	142	173	174	142	128	} 132 }	99	103	120	119	111	109	115	109	109	101	86	88	88	93	118	1
31	✓	✓	✓	90	88	91	107	99	99	121	129	130	130	123	125	120	122	112	109	120	120	125	109	98	107	108	99	112	0
MEANS * 29 DAYS				120	122	123	127	138	149	164	166	160	156	149	140	140	135	127	123	119	117	115	114	110	111	113	112	131	
MEANS † 16 DAYS				129	132	130	134	143	156	176	184	178	176	164	157	151	145	136	128	122	119	119	122	120	119	123	123	141	
MEANS ‡ 10 DAYS				143	143	142	148	152	164	178	180	174	174	165	160	154	150	141	132	128	122	122	124	120	125	132	134	146	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION } }=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈141	142	164	168⌋	122	94	88	85	86	96	—	—	—	—	—	—	—	101	92	92	⌈123	137	143	153⌋		0
2	✓	✓		⌈155	152	151	148	132	107⌋	66	50	59	73	77	79	80	75	72	81	75	76	65	63	94	92	88	89	92	0
3	✓	✓		[71	58	59	54	46	40	43]	63	71	66	65	68	60	65	66	71	71	80	86	74	75	87	88	71	67	0
4	✓	✓		[51	57	72	65	55	42	48	62]	70	63	73	77	77	82	82	89	86	82	87	91	97	83	72	71	72	0
5				89	98	132	—	—	79	89	92	81	68	77	81	86	82	88	92	87	86	102	107	97	90	93	102		0
6	✓	✓	✓	136	150	146	138	120	104	83	63	47	42	48	58	79	71	77	72	64	76	82	89	88	105	111	114	90	0
7	✓	✓		133	144	148	126	124	114	114	95	85	74	79	83	82	N 79	89	87	103	101	112	119	129	140	140	141	110	1
8	✓			⌈199	221	269	198	162	173	205⌋	137	140	114	100	98	88	97	97	97	98	103	93	95	106	106	96	89	133	0
9	✓	✓	✓	89	92	97	95	90	≷ 62	79	75	81	83≷	88	93	91	100	97	103	95	97	103	103	114	125	129	125	96	0
10	✓	✓		136	144	155	150	124	104	90	81	75	79	83	82	81	81	88	89	89	88	96	88	⌈168	307	242	192⌋	121	0
11				—	—	—	—	—	—	48	45	55	59	58	65	68	68	76	N 72	74	82	81	81	85	91	100	109		1
12				101	102	117	111	103	81	105	103	94	86	78	91	98	102	110	117	106	111	96	114	136	122	—	—		0
13				—	—	—	—	—	—	67	74	88	72	61	87	96	101	101	110	117	108	114	127	123	132	⌈150	163⌋		0
14	✓	✓		⌈164	155	158	152	155	152⌋	125	111	96	96	101	100	101	109	113	110	112	114	114	120	124	121	120	128	123	0
15				132	—	—	—	—	—	103	98	101	96	91	96	120	114	120	109	101	97	100	117	⌈134	146	147	158⌋		0
16	✓			⌈168	159	150	187	177	142⌋	110	89	78	73	73	88	89	93	101	100	97	91	107	106	108	⌈147	150	144⌋	118	0
17	✓			⌈129	116	89⌋	65	59	51	52	59	67	72	79	78	95	94	96	112	101	96	90	91	91	95	74	102	86	0
18				102	82	≷N 41'	61≷	57	46	58	64	61	64	66	≷N 56	Z	Z+	68	68≷	41	75	90	98	102	96	100	78		1
19	✓			66	78	[89	92	146	117	62	82]	90	85	75	82	100	97	106	111	100	94	97	103	79	89	75	75	91	0
20	✓			93	100	[73	73	71	52	55]	74	73	77	67	63	74	73	73	77	85	81	85	98	108	114	119	110	82	0
21	✓	✓	✓	114	120	96	97	89	70	65	88	97	89	82	89	91	101	98	101	95	82	85	92	95	98	98	102	93	0
22	✓	✓	✓	93	89	107	124	106	86	78	76	70	76	72	78	79	86	85	91	92	90	90	90	100	120	118	104	92	0
23	✓	✓	✓	101	91	83	76	66	62	59	57	54	58	60	78	65	70	66	68	72	73	81	88	98	108	108	108	77	0
24	✓	✓		⌈123	132	134	158	165	135	126	100]	87	82	85	95	102	104	107	⌈116	108	87	101	126	139	154	175	156⌋	121	0
25	✓	✓		⌈175	189	209	211	156	105⌋	91	85	70	77	71	73	78	81	78	81	57	⌈ 63	77	90	105	117	142	141⌋	109	0
26	✓			⌈142	137	128⌋	110	94	94	82	67	62	59	60	⌈ 72	72	70	68	45	33	81	113	119	117	144	169	157⌋	96	0
27	✓	✓		⌈159	142	156	170	182	180	138⌋	86	74	73	77	86	83	82	76	⌈ 92	82	60	75	135	248	242	167	137⌋	125	0
28	✓			⌈150	122	111	139	195	309	202⌋	80	65	56	54	72	74	78	79	82	85	74	89	95	104	⌈117	154	138⌋	114	0
29	✓	✓	✓	⌈134	127	109	90⌋	60	62	98	93	82	86	90	76	79	87	89	⌈ 79	85	97	108	104	121	113	111	104⌋	95	0
30	✓	✓	✓	91	92	94	76	61	70	83	107	103	93	87	82	86	92	94	90	81	⌈107	108	120	117⌋	105	114	107	94	0
31																													
MEANS * 23 DAYS				125	125	125	121	115	106	94	82	78	76	76	80	83	86	87	89	85	87	93	100	114	127	124	118	100	
MEANS † 16 DAYS				120	121	123	121	108	93	87	81	76	76	77	81	82	85	86	89	85	86	92	100	120	132	126	118	99	
MEANS ‡ 7 DAYS				108	109	105	99	85	74	78	80	76	75	75	79	81	87	87	86	83	89	94	98	105	111	113	109	91	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 190

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1927

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR. VEL.	08h–09h DIR. VEL.	14h–15h DIR. VEL.	20h–21h DIR. VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	746.1	18.2	52	24.4	8.7		12.0	S 3	ENE 6	SE 6	SSE 7	CiCu; FrCu; ACu	1- 3	CiCu; FrCu; ACu	1- 3	Dew early
2	745.9	21.6	31	27.7	7.5		12.3	S 2	NE 8	ENE 4	SSE 3	CiSt	7-10	CiSt	6- 1	Dew early
3	743.5	25.0	20	32.8	8.8		12.4	.. 0	NNE 12	NNW 6	SSE 3		0		0	
4	741.4	22.5	54	27.3	8.9		12.0	.. 0	SSW 6	SSW 10	S 3	CiCu; CiSt	4- 6	CiCu; CiSt	4- 6	
5	744.3	18.7	52	24.3	11.3		8.6	SSE 6	S 8	S 7	S 10	Cu; FrCu	7- 9	Cu; FrCu; CiSt	6- 1	
6	743.8	21.0	39	30.0	8.7		12.5	SSE 3	ESE 3	WSW 1	S 10	CiSt	1- 3	CiSt	4- 8	
7	740.7	23.3	44	33.7	9.1		12.1	S 7	SSE 5	SSW 12	S 8	CiSt	4- 6	CiSt	1- 3	Dew early
8	740.0	20.5	52	24.6	11.7		12.0	S 7	SSW 7	SW 11	SSW 3	Cu; FrCu	0- 1		0	Dew early
9	742.0	18.3	55	22.7	8.5	T	7.1	SW 2	S 7	S 12	SSE 8	Cu; StCu	9-10	Cu	4- 8	
10	743.2	17.3	40	26.5	7.1		12.4	SSE 7	E 17	E 10	SSE 8		0		0	Slight smell of smoke in evening
11	739.6	25.5	28	33.1	8.1		12.0	S 2	ENE 9	E 5	S 9	FrACu	1- 6	FrACu	4- 6	
12	737.6	26.1	41	31.8	11.5		12.4	SSW 5	S 2	SW 14	SSW 11		0		0	
13	741.9	19.4	65	27.5	13.4		7.5	SSE 1	SSE 3	SSW 6	S 6	St	7-10	St	1- 6	Dew early
14	741.2	20.3	55	28.6	9.7		12.6	S 2	SE 6	SSW 8	SSW 4		0		0	Dew early
15	741.0	18.2	63	26.2	8.4		9.8	SSW 2	S 6	S 10	S 7	FrCu	1- 3		0	
16	743.7	20.3	47	30.3	10.4		12.6	S 8	ESE 13	ESE 10	SE 5		0		0	Air smoky at 9h
17	739.4	29.0	26	39.0	13.3		12.6	SE 4	ENE 15	N 4	S 2		0		0	Cu and Nb 1 in evening, with lightning
18	735.5	31.3	31	36.6	21.9	T	1.8	.. 0	NNW 2	WSW 10	WSW 2	CiCu; ACu; ASt; CuNb	7- 8	CiCu; ACu; ASt; CuNb	7- 8	Rain at midday; lightning in evening
19	736.1	22.4	55	27.7	12.7	0.06	9.7	N 1	WNW 9	WNW 12	.. 0	Cu; Stcu	4- 8	Cu; StCu	4- 6	
20	738.2	22.1	57	30.8	11.5		9.7	.. 0	WNW 5	SW 12	S 5	CiSt; FrACu	0- 1	CiSt; CiCu; ACu	0- 1	
21	741.1	21.5	48	27.8	13.8		11.4	SSW 5	SSE 12	S 9	S 11	FrCu	1- 3	FrCu	1- 3	
22	743.2	20.5	40	27.8	11.6		12.7	S 7	ESE 17	ESE 10	SSE 5		0		0	
23	742.6	24.3	26	33.2	12.1		12.6	E 9	ENE 14	N 2	SSE 6	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Fire in SW in late pm; air smoky
24	741.7	24.3	29	31.6	11.1		12.5	S 5	SE 7	S 11	S 12		0		0	Fire in W in pm
25	741.9	21.8	45	33.9	12.9		9.3	SSE 5	ESE 14	SE 3	S 6	CiSt; ASt; StCu	1- 3	CiSt; ASt; StCu	4- 6	Dew early; smoke in N
26	739.8	26.9	40	36.8	13.0		12.4	SSE 4	ENE 4	W 1	S 4		0		0	Very smoky
27	738.6	27.5	36	38.8	11.5		12.5	SSW 1	SE 2	S 2	S 5	CiSt; ASt	1- 3	CiSt; ASt	1- 3	Dew early; smoky in am and pm
28	738.0	29.4	31	39.9	15.3		12.2	S 2	ESE 3	W 15	SSW 5	CiSt; Ci	1- 3	Ci; CiSt	1- 3	Somewhat smoky
29	741.2	21.8	56	26.6	13.2		5.8	SSW 3	SW 5	SW 13	SSW 4	Cu; StCu	4- 8	StCu; CuNb	6- 8	Few drops rain in pm
30	745.0	20.1	44	27.7	8.4		12.6	SW 2	SSE 10	SSE 6	S 9	Cu; StCu	1- 3	Cu; StCu	1- 3	
31																
SUM						0.06										
MEAN	741.3	22.6	43	30.3	11.1		10.9	3.5	7.9	8.1	6.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[146	147	142	137]	162	188	203	212	216	189	156	149	134	121	99	96	109	121	131	137	[117	121	122	119]	145	0
2	✓	✓		[113	110	112	114	119	139]	216	345	295	234	197	187	183	(167)	161	164	156	152	161	162	158	165	165	174	173	0
3	✓	✓		214	255	278	280	284	316	283	231	[128	149]	168	159	146	148	136	143	125	231	224	141	153	171	177	180	197	0
4	✓	✓		200	203	192	194	211	244	271	205	176	167	145	134	133	134	130	132	125	131	131	133	137	146	145	151	165	0
5	✓			150	133	115	109	113	131	132	131	136	131	137	140	142	142	129	132	125	123	97	89	99	117	119	108	124	0
6	✓	✓	✓	93	86	97	90	104	112	121	170	225	243	221	200	197	190	184	185	179	167	131	123	122	114	119	123	150	0
7	✓	✓		119	108	112	121	116	122	137	190	197	220	212	202	191	178	165	152	136	128	121	110	107	109	117	110	145	1
8				[101	100	86	95	95	93	79]	92	95	109	—	—	—	—	—	—	[79	104	97]	131	143	155	167	176		0
9	✓	✓	✓	183	190	178	174	178	(157	137	113	90}≤	68≥	143	145	138	134	137	[130	90	88	97	79	88]	123	122	127	130	0
10	✓	✓		122	113	109	128	148	134	[77	89	69	70	143]	148	153	156	155	151	149	148	151	162	[108	33	62	62]	118	0
11	✓			[58	94	97	97	121	162]	294	356	245	205	190	175	166	164	162	156	158	152	130	132	124	136	141	143	161	1
12	✓			155	164	160	159	167	166	143	146	160	164	160	148	146	136	125	121	120	129	128	121	130	140	132	139	144	0
13	✓			138	140	[149	152	202	187	216]	179	164	162	149	156	157	157	152	142	121	117	119	121	128	121	[114	109]	148	0
14	✓	✓		[114	129	129	130	125	130]	131	117	130	131	140	137	145	145	141	136	134	132	134	140	141	149	156	158	136	0
15				143	137	129	142	153	155	155	125	134	142	137	131	136	(134	143)	151	143	132	147	145	[133	119	100	108]		0
16				[110	110	100	86	95	103]	136	155	181	189	196	180	171	166	162	164	164	162	141	156	156	[139	130	142]		0
17				[155	176	220]	271	294	—	—	—	—	—	188	155	166	170	169	173	175	167	155	159	187	192	175	171		0
18	✓			171	192	≤210	221≥	230	252	242	227	225	209	174	146	≤ 56≥	123	123	112	131	132	132	148	156	160	162	178	171	1
19				195	180	[181]	—	—	—	—	—	133	131	138	[100	130	127	128	79	100	117]	122	142	166	155	162	162		0
20				150	137	[139	159	155	203	184]	152	157	167	—	—	—	—	—	—	—	—	—	—	109	112	117	127		0
21	✓	✓	✓	122	123	133	146	140	136	122	127	127	132	131	141	142	129	113	114	123	120	113	116	116	115	113	120	126	0
22	✓	✓	✓	120	120	114	115	134	152	138	139	148	155	153	150	147	(132)	137	142	143	140	141	143	139	120	130	147	137	0
23	✓	✓	✓	169	210	244	263	266	252	245	236	221	210	189	185	188	187	180	181	176	137	142	147	131	133	138	115	189	0
24	✓	✓		[115	117	109	99	96	102	99	117]	132	159	161	167	150	149	140	[90	86	92	92	97	96	96	88	82]	114	0
25	✓	✓		[74	75	76	81	103	134]	134	134	153	159	170	184	186	180	176	174	155	[127	94	107	116	110	107	104]	130	0
26				[108	103	123]	152	160	155	166	176	205	224	197	[160	146	95	108	125	121	136	125	129	133	109	89	109]		0
27	✓	✓		[109	101	101	93	86	87	121]	167	200	205	197	191	188	183	178	[143	83	96	108	102	61	74	107	90]	128	0
28				[93	114	102	80	67	52	100]	167	197	213	228	184	171	159	130	125	138	142	134	147	150	[120	95	109]		0
29	✓	✓	✓	[115	119	121	130]	(142	101	156)	155	153	155	143	133	140	(147)	136	[107	102	103	109	110	117	122	130	137]	128	0
30	✓	✓	✓	151	155	153	169	192	205	176	138	115	131	140	145	153	155	151	156	150	[109	96	109	121]	121	127	131	144	0
31																													
MEANS * 22 DAYS				134	140	142	146	156	164	172	178	168	164	164	160	154	153	146	139	131	131	126	124	121	123	127	128	146	
MEANS † 16 DAYS				133	138	141	145	153	158	160	167	160	162	166	163	161	157	151	144	132	131	128	124	119	119	125	126	144	
MEANS ‡ 7 DAYS				136	143	149	155	165	159	156	154	154	156	160	157	158	153	148	145	138	123	118	118	119	121	126	129	143	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≤≥=DISTURBED BY BAD WEATHER

TABLE 192

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[90	96	79	96]	115	148	171	199	204	168	134	130	122	111	95	89	99	103	93	98	[98	97	85	85]	117	0
2	✓	✓		[75	72	66	77	77	106]	196	325	271	220	191	173	164	(155	141)	125	134	126	134	129	113	122	124	126	143	0
3	✓	✓		164	209	224	227	248	267	243	190	[211	141]	146	145	127	134	119	123	121	99	76	113	114	131	129	144	160	0
4	✓	✓		158	160	156	170	186	198	228	180	161	138	115	108	117	108	109	110	109	108	103	101	101	85	103	110	134	0
5	✓			109	107	88	60	68	86	99	109	114	113	114	117	116	120	111	109	109	106	74	67	88	92	89	86	98	0
6	✓	✓	✓	63	69	67	61	71	79	78	141	203	226	199	174	172	172	156	162	152	141	104	108	103	91	88	91	124	0
7	✓	✓		85	75	70	74	76	88	108	146	159	182	183	178	162	151	143	131	115	109	92	90	86	75	68	76	113	1
8				[64	61	52	64	71	58	55]	72	76	91	102	111	108	(104	109)	[102	97	97	98]	90	90	94	104	111		0
9	✓	✓	✓	130	130	121	115	119	130	119	116	108	102	122	120	121	116	114	111	90	84	77	88	81	94	98	92	108	0
10	✓	✓		81	76	78	87	101	102	[101	76	92	137	150]	149	143	145	143	138	129	130	123	116	[80	35	45	53]	105	0
11	✓			[44	57	57	59	80	119]	271	327	254	208	182	159	147	139	132	145	120	124	114	109	109	111	101	104	137	1
12	✓			115	111	114	119	109	117	120	120	122	130	119	124	125	110	109	76	86	97	101	85	75	76	89	94	106	0
13	✓			86	88	[77	79]	109	108	152]	130	119	120	120	128	127	130	117	103	93	88	86	85	88	77	[71	76]	102	0
14	✓	✓		[72	77	67	79	69	77]	94	94	101	108	107	109	109	115	109	109	107	104	92	86	87	91	94	76	93	0
15				94	76	67	—	—	—	—	—	109	116	109	120	110	(126	120)	128	130	110	105	107	97	—	—	—		0
16				—	—	—	—	—	—	—	—	—	169	169	174	164	160	150	146	140	147	119	109	109	[103	86	92]		0
17				[109	117	147]	186	216	236	269	242	168	151	156	141	130	137	141	130	141	122	106	109	130	124	141	132		0
18	✓			158	131	163	154	167	187	182	179	188	173	149	136	168	120	117	107	113	92	88	56	102	117	113	123	136	1
19				129	130	[109	92	94	112	154	139]	120	117	—	—	123	121	124	110	107	113	98	94	113	99	101	102		0
20				98	89	[88	103	102	140	140]	123	131	129	[141	151	156	160	142	124	125	120	111	98]	88	79	75	89		0
21	✓	✓	✓	76	75	101	109	117	(126	127	132)	123	126	124	134	127	109	98	102	106	106	98	90	97	87	85	96	107	0
22	✓	✓	✓	90	89	79	83	98	122	128	138	144	151	150	147	143	132	(129)	130	125	123	123	129	110	89	83	96	118	0
23	✓	✓	✓	116	158	225	233	230	219	214	211	204	187	179	165	169	161	172	160	150	122	127	122	106	107	108	97	164	0
24	✓	✓		[92	85	77	69	69	77	88	120]	126	132	139	138	125	120	114	[79	88	81	88	90	78	77	76	63]	96	0
25	✓	✓		[61	56	47	54	72	111]	126	130	154	152	161	172	171	148	151	142	141	[113	90	90	91	79	76	73]	111	0
26				[67]	—	—	—	—	—	—	—	—	183	181	[150	139	86	93	109	104	109	98	96	102	81	67	76		0
27	✓	✓		[74	67	63	56	40	46	86]	151	155	168	169	162	164	154	148	[109	63	87	83	79	58	43	64	66]	97	0
28				[59	77	77]	—	—	—	—	—	165	165	189	160	141	131	115	107	110	120	102	104	106	[88	66	64		0
29	✓	✓	✓	[69	68	77	73]	94	(99	105	111	116)	122	114	106	120	120	(109)	[85	78	78	77	77	74	87	77	75]	92	0
30	✓	✓	✓	91	107	98	120	120	125	130	105	104	106	116	116	130	131	131	133	125	[88	69	78	84]	95	98	98	108	0
31																													
MEANS * 22 DAYS				94	98	100	102	111	124	144	156	156	150	145	141	140	132	126	117	112	105	96	95	91	89	89	91	117	
MEANS † 28 DAYS				94	98	101	105	112	123	136	148	152	150	148	144	142	136	130	122	115	106	97	99	90	87	88	90	117	
MEANS ‡ 7 DAYS				91	99	110	113	121	129	129	136	143	146	143	137	140	134	130	126	118	106	96	99	94	93	91	92	117	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 193

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		95	112	109	109	107	107	101	79	62	56	65	57	56	57	63	76	95	100	105	109	[93	89]	93	108	88	0
2				—	—	—	—	—	—	81	68	66	65	72	81	90	—	—	—	—	[107	116	128]	128	131	125	131		0
3				132	101	82	78	73	73	67	63	65	64	74	90	93	94	96	97	101	97	97	[155	142	150	} Z	Z {		1
4				128	109	{ Z-	Z-	Z	Z	Z- }	58	57	59	61	61	71	73	78	76	80	78	80	[165	194	165	154	148]		2
5				[143	134	103]	73	67	74	77	72	70	70	78	89	100	100	—	—	—	—	—	—	—	[262	253	246]		0
6	✓	✓		[236	197	223	224	171	125]	70	56	63	62	74	77	82	79	86	N 77	72	75	79	85	90	94	117	[163]	112	1
7				[228	174]	136	131	123	117	111	{ Z	148 }	107	101	97	105	108	102	97	94	98	113	119	117	136	138	125		1
8	✓	✓	✓	127	117	112	109	108	110	103	89	105	102	113	102	100	101	111	113	112	131	105	111	118	128	123	124	111	0
9	✓	✓		[163	205	225	183	117]	88	89	73	64	59	58	60	65	71	78	80	77	85	89	100	98	105	102	91	101	0
10	✓			78	76	65	65	66	63	64	62	62	60	58	74	80	87	90	90	86	97	89	76	87	[195	274	180]	93	0
11				100	65	54	46	48	36	42	57	67	64	68	79	{ 86	Z	Z	Z	Z	Z	N 71 }	62	58	68	48	49		2
12				46	64	60	58	44	49	50	52	63	75	77	94	96	{ 86	Z	Z	76	N 26	46	N 57	N 52	82 }	[68	76]		1
13	✓	✓		[62	77]	77	79	78	73	103	140	146	148	128	113	135	142	154	142	129	126	125	120	142	143	113	91	116	0
14	✓	✓		78	65	72	57	36	35	80	97	111	107	106	107	122	124	129	127	116	133	107	127	121	118	110	88	99	0
15	✓			82	91	104	112	92	97	119	89	96	85	89	77	111	95	122	132	111	129	122	125	134	132	134	138	109	0
16				—	—	—	—	—	—	92	105	100	109	110	117	120	123	123	127	131	123	117	117	167	164	142	143		0
17	✓			117	109	126	109	93	111	101	91	82	86	88	88	88	86	93	103	97	120	[189	201	193	231	} 125	-72 {	100	1
18				{ 59	146 }	[170	171	212	211	184	128]	79	62	61	75	70	68	N 51	Z	Z	Z	Z	103 }	74	83	90	76		2
19	✓	✓	✓	80	[107	126	105]	81	67	54	54	58	59	65	66	74	68	62	67	72	86	87	93	94	89	87	88	79	0
20	✓	✓		81	71	56	51	46	41	50	65	55	62	73	72	72	82	75	85	[93	105	92	58	64	219	303	292]	94	0
21	✓	✓		[241	233	248	212	174	128	79]	58	71	66	72	67	62	N 41	75	83	81	74	67	78	[362	162	N 70	120]	122	1
22	✓	✓		[254	302	338	293	235	180	79]	51	59	57	70	66	70	N 72	[90	108	140	211	248	273	293	205	220	180]	171	1
23				[173	86	88	166]	124	107	108	120	117	100	88	97	66	—	—	—	—	—	—	—	—	—	—	—		0
24				—	—	—	—	—	—	—	—	—	83	71	67	86	86	81	72	74	87	[86	114	111	119]	103	96		0
25	✓	✓	✓	87	90	83	77	75	70	65	64	68	68	63	63	60	60	60	68	65	77	72	85	82	85	68	62	72	0
26	✓	✓	✓	54	54	65	68	61	55	58	54	55	58	60	64	67	65	65	58	63	72	73	87	85	79	65	56	64	0
27	✓	✓	✓	55	57	49	45	41	37	40	42	48	51	54	50	57	57	64	55	66	55	[77	82]	71	68	72	62	56	0
28				48	48	54	[64	121	95]	90	78	78	82	—	—	{ Z	Z	58	−19 }	68	62	{ 76	Z	Z	Z	Z	Z {		2
29				{ Z	105	Z	Z	Z	Z }	66	59	44	52	49	55	62	68	80	98	93	98	104	[131	155	153	138	128]		2
30	✓	✓		[103	124	108	95	89	102	147	147	125	121	117	124	117	117	129	136	143	156	186	261	146	144	193	278]	142	0
31				[273	196]	[112	77	124]	110	—	—	—	86	90	78	66	57	64	67	75	72	82	86	94	[131	248	198]		0
MEANS * 17 DAYS				117	123	129	117	98	88	82	77	78	77	80	78	83	83	91	94	95	108	112	122	134	134	119	121	102	
MEANS † 14 DAYS				123	129	135	122	101	87	80	76	78	77	80	78	81	81	89	91	95	106	108	119	133	123	124	129	102	
MEANS ‡ 5 DAYS				81	85	87	81	73	68	64	61	67	68	71	69	72	70	72	72	76	84	83	92	90	90	85	78	77	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 194

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1927

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.4	23.0	45	32.1	12.5		12.5	SSE	7	ESE	9	SSE	4	S	7		0		0	
2	740.9	24.6	44	33.4	14.4		12.8	SSE	4	ESE	8	SE	5	S	6	CiSt	1- 3	CiSt	1- 3	Dew early
3	737.0	24.4	36	31.9	15.1		12.8	SE	4	E	8	SE	5	SSE	14		0	CiSt; CiCu	1- 3	Much smoke to N in pm; distant lightning in evening
4	738.6	20.2	42	30.1	15.7	T	10.1	S	5	ESE	16	SE	12	S	6	CiSt; StCu	4- 8	CiSt; StCu	4- 6	
5	739.4	23.2	38	34.2	13.5		12.6	SSE	6	E	8	SSE	1	S	6		0		0	
6	737.4	31.5	21	38.3	13.1		11.4	S	2	NNE	11	WNW	3	SSW	7	CiSt; Ci	10- 4	Cu; FrCu	4- 6	
7	738.5	31.7	55	36.4	16.9		11.1	S	7	S	12	SSW	13	S	12	CiCu; Cu; FrCu	4- 6	CiCu; Cu; FrCu	4- 6	
8	742.1	30.5	48	29.8	11.8	T	12.6	S	2	SE	11	SSE	6	S	9		0		0	Hazy at 9h
9	743.5	24.0	43	35.1	13.5		12.5	SSE	6	ESE	13	E	12	SE	5	CiSt	0- 1	FrCu	1- 3	
10	741.5	31.5	24	39.7	21.0		10.6	ESE	9	ENE	11	NE	3	SSE	3	FrCu	1- 3	FrCu	1- 3	Large fire to NW
11	737.9	35.7	21	41.6	21.9		6.1	SE	1	NNE	13	WSW	16	NE	1	Ci; CiSt; ACu; ASt	4- 6	ACu; Cu; CuNb	7-10	Thunderstorm in pm; fires in NW
12	736.0	33.7	26	39.4	19.4	0.04	8.7	WNW	1	NNE	6	W	13	..	0	CiSt; CiCu; ACu	6- 8	ACu; Cu; CuNb	7- 8	Some thunder in pm; fires in NW
13	732.4	28.8	49	32.8	16.5		11.0	WNW	2	WNW	8	W	18	SW	10	Ci; CiSt	1- 6	CiSt; ASt; Cu; CuNb	7- 8	Possibly rain at night
14	736.3	19.5	61	24.8	12.5	0.04	6.5	..	0	W	10	W	15	WSW	7	CiCu; FrCu; CuNb	7- 9	CiCu; FrCu; CuNb	7- 8	Rain in early hours, and at night
15	738.6	19.8	72	26.9	15.0	0.04	5.3	W	1	S	1	SW	6	SSW	6	Cu; CuNb	7-10	Cu; CuNb	7- 8	
16	740.7	23.3	40	32.3	10.6		12.7	S	2	SSE	5	SSE	6	S	9		0	Ci	0- 1	
17	740.7	25.7	39	37.2	15.5		12.6	SSE	5	ESE	13	SE	9	S	7		0	CiCu; Cu	1- 3	Distant lightning in N in evening
18	741.2	26.1	36	38.7	18.4		8.6	ESE	16	E	15	ESE	3	NNW	1	CiSt	1- 3	Cu; StCu; CuNb	4-10	Light rain in pm with some lightning
19	739.9	30.6	29	37.9	20.6	0.03	11.7	ESE	8	ENE	14	SE	4	ESE	5	ASt; Cu; StCu	1- 3	ASt; Cu; StCu	4- 6	
20	737.1	31.5	25	37.8	19.5		10.0	ENE	1	NNE	10	ESE	4	S	7	CiCu; Cu; StCu	1- 3	CiCu; Cu; StCu	4- 6	
21	736.0	33.4	16	37.9	17.3		4.9	SSE	4	N	6	NNW	1	S	4	CiCu; Cu; StCu	6- 4	CiCu; Cu; StCu	4- 6	
22	732.4	35.7	13	41.7	17.9		10.3	S	3	N	10	SSW	14	S	8	Cu; StCu	1- 3	Cu; StCu	4- 6	Much smoke in pm
23	734.1	23.4	57	25.3	18.0		1.1	S	6	S	8	SSW	5	SSE	2	CiSt; CiCu; StCu	4- 6	StCu; CuNb	7-10	Rain in pm; distant lightning in evening
24	737.5	22.7	63	29.2	12.9	0.06	6.3	SSW	2	SE	4	SE	4	SSW	8	StCu; Cu	4- 6	StCu; Cu	7-10	
25	741.5	24.9	49	33.8	16.2		11.0	ESE	11	ENE	14	ENE	8	ESE	7	CiSt	1- 3	Cu	1- 3	
26	741.4	29.4	32	35.9	18.4		10.6	ENE	5	E	10	ESE	13	ESE	5	Ci; CiCu; ASt	1- 3	CiCu; Cu	1- 3	
27	740.6	29.0	26	38.1	19.4		12.6	ESE	3	ENE	13	ENE	10	E	4	Cu; StCu	2- 6	CiCu; StCu; CuNb	7-10	Distant lightning in N in evening
28	740.2	32.5	17	40.6	22.2		8.2	E	1	NNE	13	NE	4	W	1	Ci; CiCu; Cu	4- 6	Ci; CiCu; CuNb	7-10	Distant fire in E; lightning at night
29	738.3	35.2	16	40.3	21.0	0.02	11.4	NNW	1	N	12	WSW	11	SW	3	Ci; CiCu; Cu; StCu	4- 6	Ci; CiCu; Cu; StCu	4- 6	Much smoke
30	738.8	24.0	52	30.6	14.5		12.3	..	0	SW	8	SSW	9	SSW	7	Cu; StCu	1- 3	Cu; StCu	1- 3	Much smoke in am and pm
31	741.9	20.5	42	29.7	15.1		12.8	SSE	5	ESE	15	ESE	10	ESE	4		0		0	Air smoky
SUM						0.23														
MEAN	738.9	26.8	38	34.4	16.5		10.1	4.2		10.2		8.0		5.8						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 195

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		131	131	125	117	109	110	126	155	174	[161	76	107	102	57	68	48	62	31	26	35	27	38	52	42]	88	0
2	✓			[31	35	26	30	42	40	48	25]	228	224	208	185	173	160	148	135	119	[112	85	111]	117	135	143	138	112	0
3	✓			138	173	216	224	235	219	265	273	294	273	236	217	211	188	185	173	171	165	161	[110	100	103	117	114]	190	1
4	✓			[137	128]	≷117	135	178	263	211≷	217	217	203	198	185	188	185	185	184	173	160	157	[83	60	85	84	98]	160	2
5	✓			[95	112	140]	201	231	214	209	232	247	239	231	215	212	208	201	192	165	171	157	[128	72	78	91	89]	172	0
6	✓	✓		[90	94	100	102	112	127]	224	256	204	184	173	169	155	(122)	134	141	143	150	147	155	147	126	121	[91]	144	1
7	✓			[52	76	95]	96	111	[119	116	69]	87	79	81	107	125	126	118	101	101	109	100	112	86	111	116	115	100	1
8	✓	✓	✓	125	123	127	125	112	129	134	117	111	109	127	126	147	144	102	114	84	81	100	119	126	114	101	110	117	0
9	✓	✓		[80	74	64	80	127]	173	159	178	199	191	202	191	187	165	155	155	156	150	150	151	157	166	177	196	153	0
10				217	234	239	265	268	276	277	275	255	244	215	184	167	165	165	157	150	139	143	158	161	[99	52	92]		0
11	✓			172	251	284	317	321	333	338	253	200	153	173	181	166	≷ 84	11	12	143	29	152≷	157	184	186	207	215	188	2
12	✓			231	220	232	249	276	299	321	309	250	198	185	171	152	147	≷ 60	38	39	128	148	112	63	89≷	110	128	173	1
13	✓	✓		153	180	225	233	216	221	168	135	98	86	[75	62	63	(65	75)	57	53	67]	116	116	127	147	161	173	128	0
14	✓	✓		166	199	198	221	253	248	166	143	117	[76	140	68	78	65	73	59	67	87	69	91]	103	110	128	138	128	0
15				150	152	169	165	157	161	152	142	156	155	146	140	131	137	147	152	142	138	135	135	144	153	159	158		0
16				147	140	148	150	158	146	151	151	161	163	147	150	143	129	99	100	101	125	119	137	114	115	123	125		0
17				116	100	78	95	117	129	144	138	153	152	143	161	171	164	158	142	130	[114	44	56	84	65≷	61	65≷		1
18	✓			[76	74	75	65	62	62	67	99]	135	163	174	163	173	167	151	≷ 87	68	137	196	190≷	158	153	166	192	127	2
19	✓	✓	✓	207	[181	151	165]	227	247	283	263	220	214	199	187	174	169	160	153	152	141	144	147	160	183	190	203	188	0
20	✓	✓		220	242	266	265	261	277	258	186	164	172	160	163	157	(150)	141	131	[118	48	53	95	117	39	36	44]	157	0
21	✓	✓		[51	55	63	78	95	118	206]	261	216	195	173	161	148	147	152	146	137	144	151	159	[26	69	116	80]	131	1
22	✓	✓		[40	40	39	48	61	78	173]	243	206	196	160	130	126	[103	91	75	49	27	16	20	30	71	62	60]	89	1
23				[67	65	81	96]	111	—	—	—	—	107	106	101	125	126	129	≷118	119	152≷	138	139	156	177	161	174		0
24	✓			173	172	164	167	152	(130	125)	130	110	107	114	118	123	126	133	139	141	138	[129	103	102	123]	146	165	135	0
25	✓	✓	✓	161	177	198	208	199	214	192	195	184	176	173	163	159	156	159	153	147	139	134	130	139	151	167	185	169	0
26	✓	✓	✓	209	245	231	208	199	208	232	211	192	184	178	176	172	158	160	144	148	139	138	146	159	173	185	203	183	0
27	✓	✓	✓	218	241	288	299	301	334	330	265	243	210	193	181	163	(161)	168	174	168	161	[141	169]	161	181	188	207	214	0
28	✓			214	231	231	[231	152	180]	171	185	176	184	173	163	≷123	119	128	130≷	138	150	≷123	141	27	68	55	76≷	149	2
29	✓			≷ 80	101	81	130	39	73≷	137	137	139	141	134	129	135	137	112	98	107	116	126	[115	94	89	89	94]	110	2
30	✓	✓		[115	103	115	102	115	115	103	98	99	99	99	80	85	76	68	55	56	36	35	40	44	45	43	29]	77	0
31	✓			[33	38	40	48	81]	106	75	63	73	91	102	109	114	127	133	138	146	138	143	144	150	[135	76	78]	99	0
MEANS * 26 DAYS				131	142	150	159	164	178	186	181	176	166	159	150	147	135	126	117	117	114	119	118	105	114	120	126	142	
MEANS † 14 DAYS				142	149	156	161	170	186	197	193	173	161	152	140	137	124	122	115	110	100	101	112	109	115	123	126	141	
MEANS ‡ 5 DAYS				184	193	199	201	208	226	234	210	190	179	174	167	163	158	150	148	140	132	131	142	149	160	166	182	174	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 196

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1927

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		107	99	100	105	86	86	101	143	177	176	177	179	180	177	157	143	[128	97	77	64	87	101	91	98]	122	0
2	✓			[86	75	63	52	64	80	141]	200	226	231	199	176	168	142	134	115	111	[89	70	88]	98	99	103	86	121	0
3	✓			97	122	154	196	200	195	247	269	268	259	211	196	201	176	163	146	157	139	127	[86	86	89	97	92]	166	1
4	✓			[77	95}	118	143	106	86	198}	188	199	192	182	187	182	179	177	180	169	147	142	[74	50	70	65	68]	136	2
5	✓			[70	86	104]	170	191	179	177	187	211	215	202	187	188	180	169	167	137	137	115	[91	44	54	62	56]	141	0
6	✓	✓		[54	66	65	60	72	89]	169	217	179	161	143	139	128	123	(110)	113	132	118	117	123	126	113	114	[74]	117	1
7	✓	/		[45	46	69	71	77	85]{	78	68	62)	56	99	113	118	125	111	97	99	98	81	80	83	85	86	78	84	1
8	✓	✓	✓	76	97	90	98	99	92	105	125	116	98	115	131	133	121	89	98	74	71	98	99	107	92	89	88	100	0
9	✓	✓		[70	51	41	63	95]	167	150	169	198	202	203	202	182	165	156	145	146	143	128	122	122	142	156	171	141	0
10				199	—	—	—	—	—	—	—	—	223	204	167	148	157	139	134	130	114	118	119	114	[66	42	77]		0
11	✓			118	181	225	245	256	273	263	200	167	146	157	174	156{	131	31	101	51	155	132}	137	155	136	163	162	163	2
12	✓			178	182	187	203	239	260	281	258	223	187	168	177	156	133{	168	27	27	117	131	99	59	75}	101	121	157	1
13	✓	✓		140	157	200	195	184	182	152	119	94	91	89	86	78	83	(88	66)	77	74	100	106	107	104	107	110	116	0
14	✓	✓		137	149	165	179	216	222	148	131	107	108	90	91	99	106	97	78	99	96	92	98	104	111	110	111	123	0
15				115	125	126	118	108	115	108	117	140	134	136	142	122	138	(138)	—	—	—	110	110	—	—	—	—		0
16																													
17				—	—	—	—	—	—	—	—	—	—	141	166	174	163	156	143	118	[100	41	38	64	48{	69	78}		1
18	✓			[79	67	64	61	51	52	61	87]	137	165	169	165	179	178	173{	187	131	133	174	163}	142	125	124	151	126	2
19	✓	✓	✓	183	[175	128	160]	218	243	296	286	240	226	219	197	177	166	177	164	143	137	141	137	142	143	164	196	186	0
20	✓	✓		188	209	244	235	262	286	253	180	166	178	155	155	155	145	(137)	123	[102	59	45	88	101	30	22	27]	147	0
21	✓	✓		[41	39	42	56	63	90	161]	247	217	196	173	164	154	138	123	119	131	131	115	116	[24	55	96	64]	115	1
22	✓	✓		[27	26	24	36	43	64	148]	235	202	192	155	143	123	[100	73	64	39	26	13	16	23	50	42	51]	80	1
23				[52	54	59	52]	67	74	88	79	86	92	96	90	108	116	111{	131	131	131}	115	110	113	142	134	129		0
24	✓			134	136	129	120	125	106	101	106	101	99	104	114	116	120	133	129	125	123[	119	93	91	96]	114	138	116	0
25	✓	✓	✓	160	168	192	217	212	219	213	206	192	191	179	179	168	166	161	157	161	129	125	120	119	142	166	178	172	0
26	✓	✓	✓	202	244	221	198	177	196	232	228	217	206	205	192	189	183	177	163	155	156	143	145	142	156	187	212	189	0
27	✓	✓	✓	218	241	288	309	323	378	374	287	271	222	208	204	183	(188)	178	172	179	175	[124	122]	143	169	191	206	223	0
28	✓			208	218	204	[196	124	137]	155	182	172	179	184	161{	164	137	105	132}	137	137{	100	102	92	51	93	67]	143	2
29	✓			{52	99	116	78	132	102}	120	131	143	152	156	140	159	142	115	91	102	99	104	[79	60	63	68	67]	107	2
30	✓	✓		[65	63	61	61	63	76	68	79	87	90	90	76	70	64	55	39	48	24	23	31	41	39	35	23]	57	0
31	✓			[21	22	21	32	65]	97	78	64	99	106	101	114	120	133	160	154	156	151	142	141	128	[104	51	56]	96	0
MEANS * 28 DAYS				109	120	128	136	144	155	172	177	172	166	159	155	151	142	131	122	116	113	107	101	95	96	104	106	132	
MEANS † 14 DAYS				119	127	133	141	151	171	184	189	176	167	157	153	144	138	127	117	115	101	96	99	99	103	112	115	135	
MEANS ‡ 5 DAYS				168	185	184	196	206	226	244	226	207	189	185	181	170	165	156	151	142	134	126	125	131	140	159	176	174	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 197

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[147	89]	86	80	78	74	68	64	56	50	63	63	56	57	59	59	67	70	66	56	[168	Z+	Z+	Z+]		0
2	✓	✓		[339	221	141	125	108	88]	68	47	57	59	54	59	62	63	[92	95	91	132	301	360	375	238	236	240]	152	0
3	✓	✓		[199	203	217	279	348	336	270	186	120	121	117	107	100	86]	75	78	80	81	86	104	103	97	[162]	96	152	0
4				74	61	89	90	81	77	71	71	59	48	54	56	51	59	64	64	67	74	89	[103	131	120	Z+	Z+]		0
5				[Z+	Z+	Z+	196	90]	66	49	56	55	56	59	71	79	85	78	[91	86	146	160	170	214	258	224	165]		0
6				[154	198	217	Z+	Z+	Z+	Z+]	156	139	116	109	89	78	78	75	71	[90	110	128	150	165	169	157	160]		0
7				[174	208	218	192	150	195	213	279	317	303	195	165	132	136	139	144	159	169	185	228	281	323	Z+	Z+]		0
8				[Z+	Z+	363	338	311	248	202]	Z+	Z	Z	Z-	86}	103	101	{86	N 10	N 36	Z	N 32	Z-	Z-	Z	Z	72}		2
9	✓	✓	✓	111	83	107	93	105	93	111	118	110	105	83	110	106	101	106	113	136	137	120	121	108	105	102	109	108	0
10	✓	✓		116	122	126	121	111	100	87	86	81	86	94	91	88	80	89	[100	100	106	135	137	122	155	182	194]	113	0
11	✓	✓		[190	164	155	144	136	111]	89	73	54	46	50	64	71	77	81	[104	109	101	125	125	312	323	292	310]	138	0
12	✓	✓		[323	293	238	178	127]	92	59	71	79	97	[137]	106	77	66	76	76	72	83	[124	183	264	312	342	363]	160	0
13	✓	✓		[343	372	334	315	273	193	148]	82	59	77	72	76	73	81	[120	253	285	280	340	274	185	149	143	147]	195	0
14	✓	✓		[165	185	193	184	173	149	157	159	141]	109	97	96	91	81	93	97	111	107	123	[147	158	179	189	183]	140	0
15	✓	✓		[124	143	178	179]	113	113	113	101	95	107	121	108	100	110	107	104	98	104	104	[196	210	220	228	243]	138	0
16	✓	✓		[211]	113	88	92	79	75	78	78	78	89	90	108	107	118	123	114	119	129	122	129	113	[270	321	218]	128	0
17	✓	✓		[138]	102	89	91	75	65	57	62	70	82	81	81	102	98	92	94	[118	101	103	131	120	89]	56	70	90	0
18	✓		✓	55	58	87	88	72	64	65	70	64	65	61	66	[44	79	102	101	90	104	89	71	87	125	109	98]	80	0
19	✓			[131	115	96	64]	49	37	35	41	47	52	63	62	[52	22	10	10	20	0	· 26]	[88	123	127	90	82]	60	0
20				[91	87	47	120	106]	N 60	66	104	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z}		2
21				{Z	Z	Z	Z	Z	Z}	93	70	65	66	64	75	74	70	—	—	—	—	—	71	87	73	93	76		2
22				70	77	89	97	96	—	—	63	—	—	—	—	—	—	—	—	—	[127	251	292	217	310	279	151]		0
23				[82	91]	[171	175]	136	118	125}	Z	Z	Z	Z	Z}	—	—	—	—	—	—	—	—	—	{Z	Z}	—		2
24				{—	Z	N 87	117	Z	Z	Z}	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		2
25				—	—	—	—	—	—	—	—	—	—	72	87	81	81	81	—	92	91	113	150	204	{Z+}	128	146		1
26	✓	✓	✓	135	108	102	95	80	74	71	71	68	66	64	62	64	75	71	74	75	82	103	100	82	80	68	74	81	0
27			✓	95	108	97	90	78	65	51	54	46	44	49	56	{Z	Z	Z-	N 41}	58	61	72	80	77	86	86	82		1
28	✓	✓		67	59	48	57	61	54	57	59	67	74	76	87	91	{-37	-37	N102	129	54	119}	76	63	48	56	45	61	1
29	✓	✓		44	63	75	88	63	91	104	106	92	[118	134	151	123	135	209	185	169	149	151]	{N152	100}	155	124	119	120	1
30	✓	✓	✓	109	108	79	87	89	80	87	83	82	81	83	82	83	82	90	92	95	75	78	89	93	92	83	83	87	0
31				—	—	118	93	79	73	74	81	88	86	67	—	85	92	—	—	87	86	98	—	—	92	83	83		0
MEANS * 17 DAYS				165	148	138	134	121	107	97	88	80	84	87	89	84	77	88	105	112	107	132	146	154	161	164	157	118	
MEANS † 15 DAYS				174	156	145	142	129	114	104	92	84	88	90	93	89	81	92	112	119	115	142	155	160	166	172	166	124	
MEANS ‡ 4 DAYS				92	89	94	92	87	78	82	84	82	84	78	84	89	89	90	93	106	99	101	110	101	92	77	84	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER {}=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 198

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.9	23.7	31	36.1	15.1		13.0	ESE	10	ENE	11	N	1	S	4		0	CiSt	1- 3	Smoky in evening
2	738.0	30.3	21	37.8	14.1		12.0	..	0	NNE	5	SW	12	S	7	CiSt; ACu	1- 5	ACu	1- 3	Smoky in pm and evening
3	743.4	24.2	46	31.5	15.5		12.6	S	8	ESE	3	ESE	13	ESE	7	CiSt	8- 4	CiSt	3- 1	Much smoke all day
4	745.6	20.8	42	34.8	13.3		12.5	ESE	16	E	14	ESE	4	SE	4	CiSt	5- 1		0	
5	742.9	30.0	29	37.7	16.0		12.5	SSE	3	ENE	5	SW	..	S	4	CiSt	0- 1	CiSt	0- 1	Smoky all day
6	742.3	32.3	26	38.7	15.4		12.5	S	2	ESE	2	WSW	6	SSW	2	CiSt	0- 1	CiSt	0- 1	Smoky in am and possibly in pm
7	741.6	29.7	25	39.5	12.4		12.6	SSW	3	SE	1	S	3	S	4	CiSt	0- 1	CiSt	0- 1	Smoky, particularly in am
8	740.4	24.4	43	35.7	17.4	T	1.1	SSE	2	N	4	SSW	11	SSW	1	CiSt; ACu; Nb	9-10	CiSt; ACu; Nb	9-10	Light showers at intervals
9	741.2	19.1	41	24.7	13.4	0.04	11.7	SW	8	SSW	18	S	13	S	11	CiSt; FrCu	4- 6	CiSt; FrCu	1- 3	
10	742.1	18.2	40	27.4	9.3		12.9	S	6	E	10	SE	5	SSE	11	CiSt	1- 3	CiSt	1- 3	
11	742.7	23.7	31	33.3	10.9		12.7	SSE	4	E	10	E	7	SSE	8		0		0	Smoky
12	738.8	30.6	20	40.0	13.4		12.1	S	4	NE	10	ENE	2	S	10		0	CiSt	0- 1	Smoky, especially in pm
13	733.1	34.1	19	37.6	19.5		8.2	S	4	NNE	4	SW	12	SSW	7	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	Heavy smoke from SW
14	738.0	22.6	59	29.9	19.0		12.5	SSW	5	S	10	S	13	S	7		0		0	
15	742.9	19.5	45	29.5	13.5		12.8	S	9	ESE	17	ESE	11	SSE	9		0		0	
16	742.4	21.7	35	32.1	15.4		12.7	ESE	10	E	14	ESE	13	SE	4		0		0	
17	741.2	23.6	36	32.0	16.2		12.6	ESE	12	E	13	E	9	ESE	8	CiSt	0- 1	CiSt	0- 1	
18	740.3	29.5	20	38.3	19.7		12.6	E	8	NE	13	NNE	3	ESE	4	StCu	0- 1	StCu	0- 1	Probably slightly smoky
19	738.1	32.5	15	39.5	19.9		6.3	E	3	NNE	11	..	0	SW	4	CiCu	1- 3	CiCu	1- 3	Very heavy smoke from NW
20	738.0	27.3	28	36.3	19.6		3.6	ESE	6	ENE	12	ESE	4	S	4	CiCu; CiSt; CuNb	7- 8	CiCu; CiSt; CuNb	7-10	Thunderstorms in am, pm, and evening, but with little rain
21	735.5	31.6	21	38.9	22.5	0.02	9.0	NE	2	NE	11	W	2	SE	15	CiSt; ACu; CuNb	7- 8	CiSt; ACu; CuNb	4- 6	Thunderstorm in S in pm
22	737.0	26.9	37	38.3	19.5		10.4	ESE	8	E	6	SSW	3	WSW	2	CiSt	1- 3	CiSt	4- 6	Much smoke at 18h and after
23	738.3	26.9	33	29.9	22.6	T	0.0	E	6	ENE	7	NE	1	SE	6	ACu; ASt; CuNb; Nb	7-10	ACu; ASt; CuNb; Nb	7- 8	Light showers, with thunder
24	737.8	21.5	68	32.1	17.0	0.22	7.3	S	7	ENE	13	..	0	..	0	CiSt; CiCu; ACu; StCu	10-7	CiCu; ACu; StCu	4- 6	Rain in early hours; distant lightning in evening
25	738.7	26.0	45	33.9	16.9		12.5	SSW	2	SSE	7	S	5	S	6		0	Cu	0- 1	
26	740.6	23.0	48	33.9	16.7		12.4	ESE	11	E	10	ESE	5	SE	6	StCu	0- 1	StCu	0- 1	
27	737.3	30.0	28	36.6	21.0		8.4	ESE	3	ENE	8	E	13	NE	6	CiSt; FrCu; CuNb	2- 6	CiSt; FrCu; CuNb	4- 6	Thunderstorm 13h–15h
28	737.6	26.0	61	35.6	15.4	0.34	9.6	..	0	NE	5	ESE	3	SSE	1	CiSt; FrCu; CuNb	1- 6	CiSt; FrCu; CuNb	4- 6	Storm in E in pm
29	735.2	24.8	64	33.1	12.6		4.5	SSW	1	SSW	1	SW	15	SSE	6	CiSt; CiCu; FrCu; StCu	9- 4	CiSt; CiCu; FrCu; StCu	1- 3	Smoky in pm; shower in eve.; distant thunder and lightning
30	735.4	21.5	55	26.6	14.4	T	10.3	SSW	1	SSW	6	WSW	9	SW	7	FrCu; StCu	4- 6	FrCu; StCu	4- 6	Dew early; rain at night
31	740.3	18.0	60	25.0	12.7	0.05	8.1	SSW	7	SSE	7	S	5	S	7	FrCu; StCu	3- 6	FrCu; StCu	1- 3	
SUM						0.67														
MEAN	739.6	25.6	38	34.1	16.1		10.0		5.5		8.6		6.8		5.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 199

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[98	164]	177	180	173	164	180	200	216	224	217	201	184	174	181	181	175	173	171	174	[108	27	32	38]	159	0
2	✓	✓		[51	64	86	114	113	145]	189	240	223	215	176	178	153	155	[64	61	74	63	27	26	27	54	51	44]	108	0
3	✓	✓		[37	32	28	15	14	13	,20	29	35	47	50	63	66	88]	112	125	127	126	128	132	135	147	[120]	147	76	0
4	✓			137	116	135	132	147	141	141	161	174	185	197	202	186	170	171	167	164	169	163	[124	97	36	52	38]	142	0
5	✓			[37	40	47	103	194]	241	251	273	300	293	281	224	194	193	178	[99	99	52	65	69	61	55	71	66]	145	0
6	✓			[68	59	42	29	26	29	66	87]	104	119	107	120	124	113	102	105	[101	88	81	87	86	88	101	102]	85	0
7	✓			[88	74	58	50	68	64	66	50	38	51	56	49	74	68	63	65	52	51	69	63	61	55	38	41]	59	0
8	✓			[40	42	46	50	50	56	68	76}	≮ 71	98	96}	123	125	91	88	112	118	113	142	≮ 109	74	175	105	157}	93	2
9	✓	✓	✓	120	105	116	114	104	128	138	116	81	64	61	80	64	77	88	79	64	61	52	69	80	84	88	87	88	0
10	✓	✓		[87	97	99	109]	115	125	153	118	132	135	99	114	135	(135	113)	[102	101	94	80	87	92	88	74	68]	106	0
11	✓	✓		[79	90	99	99	105	124]	161	198	281	272	234	197	140	149	132	[108	69	81	92	125	47	42	54	64]	127	0
12	✓	✓		[68	64	76	101	133]	169	229	226	175	93	[45]	84	90	102	96	94	101	124	[51	24	35	26	26	32]	94	0
13	✓	✓		[35	36	42	40	55	64	82]	169	190	119	113	64	71	82	[65	9	4	10	14	28	75	88	99	91]	69	0
14	✓	✓		[91	87	69	77	86	75	75	76	81]	90	99	107	108	79	101	91	96	96	101	[79	88	88	76	81]	87	0
15	✓	✓		[82	76	73	79]	115	108	94	91	85	86	79	126	146	153	138	114	102	101	113	[59	63	65	65	71]	95	0
16	✓	✓		[87]	152	155	137	161	182	177	181	197	178	170	160	159	148	152	156	103	92	107	134	174	[88	61	69]	141	0
17	✓	✓		[123]	164	185	193	210	227	232	218	211	171	169	204	200	(183)	170	164	[101	113	112	112	121	147]	183	156	170	0
18				238	240	162	175	204	211	213	217	215	194	194	183	[140	90	74	79	88	121	114	107	88	55	49	87]		0
19				[81	105	130	154]	213	251	258	239	[139	146	125	148]	144	138	133	131	[86	94	40	31	29	38	37	41]		0
20				[44	88	147	91	85	77	63	91]	130	144	173	≮ 110	164	174	131	97	127	146	44	26	28	27	38	66}		2
21				≮ 77	107	80	96	35	81}	137	151	151	157	160	93	124	153	139	[112	115	64	70	112]	119	118	123	134		2
22				146	147	141	128	140	140	174	191	197	186	161	121	110	131	139	134	139	[86	18	15	22	28	31	49]		0
23				[88	101	76	77]	116	124	127	≮ 66}	—	—	—	—	—	—	—	180	157	160	—	—	—	—	—	—		2
24				—	—	—	—	—	—	—	—	160	138	126	125	104	(101	97)	99	96	103	112	109	125	138	169	184		2
25	✓			180	170	176	183	[137	99	125]	144	151	144	105	107	112	115	108	101	94	99	94	87	63	92	105	109	121	1
26	✓	✓		101	119	135	167	188	206	199	205	204	185	183	181	171	160	160	160	152	138	113	104	137	134	157	166	159	0
27	✓			113	108	105	121	125	160	180	204	213	205	170	134	≮ 98	77	132}	161	145	142	152	178	190	183	183	190	153	1
28	✓	✓		189	205	250	230	218	224	240	251	213	183	155	160	155	≮ 134	126}	141	137	120	≮ 73}	133	148	140	126	154	171	1
29	✓	✓		139	139	128	125	140	115	105	116	123	[86	61	42	50	38	27	44	65	85	98	91]	97	110	123	123	95	1
30	✓	✓	✓	118	135	145	141	148	151	151	140	137	127	125	131	114	126	121	125	124	126	128	135	128	135	153	153	134	0
31	✓			123	105	102	121	118	134	139	126	123	125	125	110	120	113	91	98	101	101	105	113	112	114	115	131	115	0
MEANS * 24 DAYS				95	102	107	113	123	131	144	154	157	146	132	132	127	122	116	111	103	101	97	93	96	94	94	99	116	
MEANS † 15 DAYS				94	104	112	116	127	137	150	158	158	137	121	126	121	121	111	105	95	95	86	89	96	96	97	100	115	
MEANS ‡ 4 DAYS				147	147	140	154	162	178	180	170	158	137	134	149	137	136	135	132	110	110	101	105	116	125	145	140	140	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≮≯=DISTURBED BY BAD WEATHER

TABLE 200

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

° JANUARY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[74	158]	171	173	170	165	184	208	225	239	231	212	201	184	179	182	171	173	162	146	[92	21	25	28]	157	0
2	✓	✓		[35	50]	74	90	98	118]	171	231	234	229	208	210	178	180	[63	60	69	59	21	19	25	48	39	28]	106	0
3	✓	✓		[29	29	23	16	14	15	21	34	50	52	49	55	65	89]	(107)	126	134	124	129	122	120	126	[100]	137	74	0
4	✓			124	112	131	136	141	138	158	168	182	196	215	206	202	180	165	164	160	166	150	[104	68	126	35	29]	144	0
5	✓			[25	28	29	79	158]	222	255	287	309	301	291	230	212	206	182	[98	100	57	60	62	49	44	53	58]	141	0
6	✓			[49	43	35	19	24	15	30	69]	91	101	100	112	117	102	91	98	[87	76	60	60	63	67	72	87]	70	0
7	✓			[65	50	52	38	45	48	42	33	23	26	39	47	63	52	54	45	44	42	53	47	48	38	25	25]	44	0
8	✓			[24	18	16	21	24	38	50	49]	119	90	87	108	115	80	89	112	112	117	132	160	142	179	146	138	90	2
9	✓	✓	✓	102	87	96	87	89	111	104	86	54	72	49	70	63	73	87	74	73	70	63	74	83	83	81	76	79	0
10	✓	✓		[76	83	85	95]	100	102	131	119	142	136	100	109	136	123	(104)	[91	90	87	65	72	76	73	59	52]	96	0
11	✓	✓		[53	63	65	74	75	96]	147	206	308	298	254	208	153	150	131	[98	63	75	80	96	39	37	40	49]	119	0
12	✓	✓		[38	45	62	89	112]	147	208	236	193	83	[43]	76	87	91	75	83	83	103	[38	23	20	21	19	25]	83	0
13	✓	✓		[18	20	32	30	38	50	69]	152	186	123	118	78	75	80	[57	9	12	10	13	19	62	64	63	62]	60	0
14	✓	✓		[55	50	50	54	55	59	58	60	64]	87	97	108	94	76	101	94	95	97	86	[75	74	60	63	64]	74	0
15	✓	✓		[70	57	63	55]	103	103	92	106	89	90	73	134	162	161	153	112	103	100	102	[54	50	53	50	47]	91	0
16	✓	✓		[59]	131	147	135	162	182	182	192	206	190	172	172	162	164	160	156	86	76	95	115	128	[64	40	48]	134	0
17	✓	✓		[100]	168	179	184	204	219	235	226	222	168	172	222	211	195	(165)	165	[94	101	98	91	112	136]	174	143	166	0
18			✓	224	221	155	166	195	203	209	214	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
19																													
20				—	—	—	—	—	—	—	—	—	141	170	258	242	197	—	—	—	—	—	—	—	75	60	45		2
21				—	—	—	—	—	—	—	—	—	156	155	—	—	—	—	—	—	—	—	—	—	—	—	—		2
22				—	—	—	—	—	—	—	—	—	172	150	112	95	123	131	119	123	[63	14	15	18	21	63	30		0
23				—	[94	64	63]	97	108	102	94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		2
24				160	153	134	123	140	148	171	170	149	128	125	114	90	91	—	—	—	—	90	87	111	119	143	153		2
25	✓			158	147	149	159	[117	87	107]	135	136	134	97	90	101	(100	92)	89	87	85	74	67	53	73	86	78	104	1
26	✓	✓		74	104	128	149	176	185	191	198	205	196	186	184	179	158	154	150	138	132	106	100	124	114	148	133	151	0
27	✓		✓	97	90	81	98	119	158	165	204	219	215	170	180	189	(174)	160	171	160	137	137	153	160	154	152	148	154	1
28	✓	✓		160	184	226	208	196	209	237	243	193	165	144	156	147	148	137	128	117	108	59	96	123	122	107	136	156	1
29	✓	✓		124	117	112	95	112	96	89	91	104	[76	50	39	47	38	28	58	64	74	74	87]	89	87	73	84	79	1
30	✓	✓	✓	76	95	112	112	102	109	113	124	119	120	112	117	108	115	112	122	125	108	112	108	102	122	116	124	113	0
31	✓			103	89	81	78	78	100	119	114	113	122	123	122	112	108	86	84	96	87	90	109	97	109	106	120	103	0
MEANS * 26 DAYS				74	84	92	95	105	116	132	149	158	146	132	135	132	126	114	106	98	94	86	86	83	84	78	81	108	
MEANS † 15 DAYS				71	86	97	98	109	120	137	154	158	139	122	129	124	123	109	100	90	88	76	77	82	81	78	82	106	
MEANS ‡ 4 DAYS				125	123	123	133	143	156	161	158	150	139	130	148	140	135	130	128	107	101	95	93	105	114	130	124	189	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ξ ξ=DISTURBED BY BAD WEATHER

TABLE 201

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1			✓	72	61	—	—	—	—	—	—	—	83	86	91	94	98	113	96	106	94	105	94	104	94	92	92		0
2	✓			88	92	92	70	52	48	56	77	75	65	60	75	94	96	105	106	101	110	128	127	147	132	135	116	94	0
3	✓			73	62	96	[139	169	166	128	151	171	175	164	171	180	158	148	121	116	102	138	169	85	106	121	182]	137	0
4	✓	✓		[172	144	124	147	137	122	100	120	154	194	202	174	190	197	150]	125	119	112	96	93	[185	201	208	224]	154	0
5	✓	✓		[224	182	171	190	216	224	205	159]	111	97	83	104	101	92	94	94	92	[153	65	123	172	157	126	147]	141	0
6				112	62	74	76	141	129	105	160	166	152	149	143	144	129	125	138	[142	215	243	262	240	293	171]	—		0
7				—	—	—	—	—	—	[220]	139	144	141	126	141	123	121	120	[178	223	266	230	238	Z+	Z+	Z+	Z+]		0
8	✓			[288	296	294	355	384	381	349	278	169]	143	149	151	164	166	166	172	174	[260	303	328	340	330	365	335]	264	0
9	✓	✓		[334	343	376	383	304]	149	138	142	152	165	166	177	152	135	119	121	118	[153	163	232	255	211	181	180]	202	0
10				[173	168	162	271	Z+	Z+	363	331	319	284	199]	153	139	114	109	116	112	122	116	128	113	105	101	116		0
11	✓	✓	✓	104	147	125	119	107	94	93	102	89	83	82	81	81	86	97	104	113	120	117	109	88	108	100	120	103	0
12	✓	✓		125	[165	171	150	149]	125	114	120	107	104	101	108	116	129	138	127	135	126	[128	146	160	152	257	310]	144	0
13	✓	✓		[275	261	198	184	234	310	254	110]	74	66	66	83	86	98	106	82	105	105	116	129	[185	248	205	240]	159	0
14				[268	312	281	306	365	297	275	213]	134	98	96	96	95	94	93	93	104	94	≷ 44	-162	Z-	Z-	Z-	Z- ≷		2
15				≷228	-140	N 34	N 1	N 95≷	101	114	≷ 73	-35	N 32	78	45	N 30	-11	—	—	—	-131	-68	N 25≷	85	91	102	149		2
16	✓	✓		[187	132	153	152]	128	138	127	81	[N 15	N 4	N 18	-11	N 6	N 4	N 17	N 25	N 44	N 68]	95	118	[178	189	187	184]	93	2
17	✓	✓		[199	155	126]	92	85	86	80	79	72	66	66	73	81	80	75	91	95	102	93	119	109	137	137	107	100	0
18	✓	✓	✓	96	95	95	75	63	52	45	45	52	54	56	50	58	N 45	52	63	65	65	68	72	98	109	141	160	74	1
19			✓	153	131	105	81	62	45	44	57	56	61	61	73	67	70	75	72	60	70	64	70	≷ 124	Z	Z	Z ≷		2
20				[Z	Z	248	229	N107	202	181	180]	81	46	63	65	73	71	80	73	55	47	56	90	[144	147	182	188]		1
21	✓	✓		[183	219	242	227]	149	124	117	103	88	72	64	59	56	72	73	77	[91	80	92	98	117	148	140	150]	118	0
22	✓	✓		[151	156	174	202	144]	124	109	82	65	62	77	87	87	90	89	79	80	77	77	[71	82	174	227	209]	116	0
23	✓	✓		[192	196	180]	123	76	66	45	30	34	34	40	47	[82	76	82	73	64	57	27	32	68	111	164	172]	86	0
24				[230	192	196	141	93	144	—	—	162	158	—	—	—	—	80	87	79	68	58	71	144	225	223	251]		0
25	✓	✓		[173	179	172	142	109	111	122	102	126	175	134	85	67	60	66	71	121	89	93	109	132	131	165	226]	123	0
26				[Z+	Z+	Z+	Z+	Z+	254	276	Z+	Z+	160	195	231	193	164	131	124	113	128	131	118	126	162	156	173]		0
27	✓	✓	✓	[109]	49	41	57	67	76	77	74	72	71	71	67	55	54	61	74	83	[98	103	106	105	109	122	127]	80	0
28				[162	152	133	118	118]	106	94	85	62	57	58	60	71	83	[88	88	134	174	262	Z+	Z+	Z+	Z+	Z+]		0
29	✓	✓		[259	217	149	125	135	192	202	244	274	323	257	227	229	220	204	214	178	214	211	239	273	247	202	160]	216	0
30																													
31																													
MEANS * 18 DAYS				179	172	166	163	150	144	131	116	106	108	103	100	105	103	102	101	105	116	117	134	154	167	177	186	134	
MEANS † 15 DAYS				185	176	166	158	140	133	122	106	99	105	99	94	96	96	95	95	100	108	103	120	147	162	171	181	127	
MEANS ‡ 5 DAYS				110	103	92	84	75	70	70	78	73	69	68	74	76	78	84	87	91	97	97	100	101	111	118	121	89	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈] = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALUE

TABLE 202

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.8	19.6	46	29.3	9.1		12.6	S	1	SSE	7	SSW	3	SSW	8		0		0	
2	740.4	20.9	60	29.9	11.9		8.9	S	2	SSE	7	SSW	5	S	9	CiCu; FrCu; CuNb	7- 8	CiCu; FrCu; CuNb	1- 6	Dew early
3	740.4	20.5	52	32.1	11.3		12.5	S	5	ESE	13	S	1	S	9		0		0	Dew early; smoky all day
4	739.8	22.0	39	32.8	12.8		10.9	S	4	ESE	12	ESE	8	S	7	CiSt; CiCu	4- 6	CiSt; CiCu	1- 3	Smoky all day
5	738.1	28.5	29	39.0	12.7		12.1	SE	4	ENE	6	NE	2	S	4	CiCu	1- 3	CiCu	1- 3	Smoky all day
6	738.7	22.2	49	32.9	15.1		11.6	S	8	SSE	12	SSE	8	S	7		0		0	Smoky
7	738.6	23.5	43	35.7	13.6		12.3	S	4	ESE	8	SSW	7	S	7		0		0	Smoky; few CiSt clouds after 18h
8	739.4	21.5	53	32.7	13.5	T	12.0	S	4	SSE	10	SSE	11	SSE	10	CiSt	1- 3	CiSt; Cu	1- 3	Smoky
9	739.0	22.0	49	35.6	13.5		12.1	SSE	6	E	11	S	1	SSW	8		0		0	Smoky
10	734.9	21.7	62	28.8	15.5	T	11.8	S	6	SSW	11	SW	15	SW	8		0		0	Dew early; smoky; CiSt and Cu on horizon in evening
11	738.2	18.7	50	26.2	11.4	T	10.8	SW	2	SSE	10	SSW	10	S	9	Cu; FrCu; CuNb	8- 4	Cu	1- 3	Heavy dew early
12	741.2	20.5	41	30.9	10.2		12.0	S	4	ESE	12	ESE	9	SSE	9		0		0	Smoky
13	738.3	26.0	29	33.2	14.0		3.1	SSE	4	ENE	8	E	8	ESE	6	FrCu; StCu; CuNb	7- 9	FrCu; StCu; CuNb	7- 8	Suggestion of smoke
14	736.9	28.3	27	34.4	14.9		11.2	S	3	ESE	6	SE	12	ESE	23	StCu; FrCu; CuNb	1- 8	StCu; FrCu; CuNb	7- 8	Smoky
15	745.0	19.0	50	28.9	13.7		10.9	ESE	19	ESE	23	E	18	ESE	13		0		0	Smoky
16	744.8	18.4	42	30.9	13.3		11.8	ESE	14	ENE	22	ENE	18	E	4		0		0	Few CiSt, CiCu clouds in evening; smoky all day
17	743.0	22.3	38	27.9	17.5		9.0	ENE	8	NE	16	E	10	E	5	CiSt; CiCu	7- 8	CiSt; CiCu	7- 8	Probably smoky all day
18	741.8	24.4	37	32.8	20.8		7.8	ENE	6	NE	12	ENE	5	E	2	CiCu; StCu; Nb	7- 9	CiCu; StCu; Nb	7- 8	Slightly smoky
19	740.1	27.7	28	35.8	17.8		9.6	E	5	NNE	8	ENE	3	SSW	10	CiSt; Cu; StCu	2- 8	CiSt; Cu; StCu	7- 8	Smoky all day; rain at 21h
20	737.9	28.3	27	36.5	18.5	T	8.7	S	1	ENE	4	SSW	3	S	6	CiCu; Cu	0- 1	CiCu; Cu	0- 1	Smoky, especially in evening
21	740.9	26.8	31	36.9	18.0		11.4	SSE	5	E	10	ESE	4	SE	5		0		0	Few Cu clouds in evening; smoky throughout
22	742.9	29.1	26	37.5	20.7		11.0	E	9	NE	11	SE	4	SE	2	Cu	0--1		0	Smoky
23	743.7	30.2	17	39.5	16.1		9.7	SE	1	NNE	6	SE	3	S	3		0		0	Smoky all day; few CiSt clouds in evening
24	742.7	29.3	26	40.3	16.5		8.8	S	3	ESE	2	SE	2	S	3		0		0	Smoky
25	739.8	29.0	32	40.7	14.7		8.9	S	2	NE	1	W	7	SSW	11		0		0	Smoke thick all day
26	741.8	22.2	63	34.2	11.6		9.6	S	5	S	10	SE	6	S	4		0		0	Dew early; smoky all day, especially in am
27	742.9	21.1	45	34.8	15.2		10.4	ESE	13	SE	14	E	6	SE	3	Ci	1- 3	CiSt	1- 3	Smoky, especially in am
28	738.0	30.1	28	40.4	17.1		10.2	S	2	ENE	1	WSW	8	SSW	4	CiCu; Cu; FrCu	4- 6			Smoky
29	738.5	22.1	75	31.4	15.2		2.6	S	2	SW	2	WSW	7	SSW	2	Ci; StCu; CuNb	7-10	Ci; StCu; CuNb	7-10	Fog early; smoky throughout
30																				
31																				
SUM						0.00														
MEAN	740.3	24.0	41	33.8	14.7		10.2		5.2		9.5		7.0		6.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 203

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			139	140	139	137	145	144	152	115	101	96	67	98	106	106	117	117	105	118	120	123	115	131	147	151	122	0
2				158	173	175	198	219	225	222	183	166	164	157	164	159	151	139	127	110	96	87	92	103	101	—	—		0
3				—	—	—	—	—	—	—	—	—	[20	23	25	26	29	27	38	71	98	87	49	79	70	51	38		0
4	✓	✓		[26	26	26	38	49	54	61	48	34	27	32	29	27	26	36	32	26	23	40	57	31	27	27	32	35	0
5	✓	✓		[34	47	54	44	60	52	56	76]	102	115	116	66	70	80	65	67	53	[23	66	54 -	23	26	34	29]	59	0
6	✓			56	56	52	51	39	51	31	23	25	30	36	47	48	65	90	64	[56	26	16	18	17	26	27	29]	41	0
7	✓			[25	20	21	21	21	23	36]	60	62	57	67	56	62	(56)	52	[29	21	17	48	48	23	23	26	35]	38	0
8				[39	27	18	18	20	21	17	30]	51	53	57	53	49	51	40	[22	16	18	23	21	22	31	18	17]		0
9	✓	✓		[16	17	18	18	31]	67	74	62	65	62	61	52	53	57	65	60	66	[30	42	43	31	34	42	40]	46	0
10	✓			[39	38	38	31	23	14	13	18	21	23	40]	47	57	77	76	97	112	121	111	113	105	110	121	89	64	0
11	✓	✓	✓	77	90	105	117	126	140	141	116	108	115	105	111	105	94	89	65	58	52	67	71	81	75	79	57	94	0
12	✓	✓		76	[62	65	75	74]	81	80	67	74	79	79	76	69	65	58	66	54	53	[31	35	39	40	40	42]	62	0
13	✓	✓		[38	35	31	31	40	48	72	146]	196	196	195	169	149	127	125	75	51	62	39	32	[36	39	57	62]	85	0
14	✓			[54	61	70	66	62	65	64	82]	122	158	150	96	89	(102	75)	65	48	39	≷ 26	20	14	14	14	21 ≷	66	2
15	✓			≷ 29	36	36	40	49 ≷	51	52	29	49	58	52	49	51	44	34	38	39	34	22	31	35	39	51	60	42	2
16	✓	✓		[44	39	40	60]	70	72	72	95	105	105	101	100	75	74	75	64	52	49	46	48	[43	51	51	64]	66	2
17	✓	✓		47	90	105	162	185	166	161	168	173	175	164	131	112	127	133	95	66	58	57	62	71	82	77	112	116	0
18	✓	✓		139	147	169	205	205	221	224	196	168	156	156	163	155	135	108	102	96	103	139	102	77	79	101	94	143	1
19	✓			98	115	127	159	195	213	229	188	189	171	150	117	40	38	39	56	74	62	38	39	42 ≷	42	35	22 ≷	103	2
20	✓			[23	26	31	36	34	43	53	66]	127	219	100	92	115	127	123	95	47	49	38	29	[29	26	20	23]	65	1
21	✓	✓		[21	22	26	44]	72	77	86	95	118	140	164	150	133	(117)	90	86	[69	52	48	48	34	48	52	51]	77	0
22	✓	✓		[42	39	46	52	84]	80	84	125	145	129	118	67	52	49	51	43	39	36	35	[26	26	25	18	21]	60	0
23	✓	✓		[29	39	53]	65	77	87	118	186	194	164	150	115	[66	42	52	46	27	39	62	80	30	20	14	16]	74	0
24	✓			[17	16	23	17	23	20	20	22	25	30	42	49	46	43	51	38	25	29	30	26	22	16	17	17]	28	0
25	✓	✓		[20	23	23	27	27	29	35	52	40	43	46	54	64	67	56	42	17	20	26	29	39	27	25	29]	36	0
26	✓			[23	22	17	16	27	31	23	14	17	16	16	17	27	26	27	29	27	27	29	36	32	29	27	23]	24	0
27	✓	✓	✓	[38]	69	80	98	100	102	97	102	103	101	112	110	102	91	90	80	76	[54	49	44	54	62	64	66]	81	0
28	✓			[70	76	86	92	96]	113	127	168	218	219	211	192	158	(113)	[66	77	64	56	39	21	22	25	23	26]	98	0
29	✓	✓		[29	26	20	22	16	14	16	14	14	20	22	20	14	16	18	16	21	17	23	29	40	57	64	74]	26	0
30																													
31																													
MEANS * 26 DAYS				48	53	58	66	74	79	84	90	100	104	98	87	79	76	72	63	53	48	50	49	43	45	48	49	67	
MEANS † 15 DAYS				45	51	57	71	81	86	92	103	109	108	108	94	83	78	74	63	51	45	51	51	44	46	50	53	71	
MEANS ‡ 5 DAYS				102	119	131	147	165	169	170	151	148	145	138	127	104	91	94	83	76	69	86	80	80	86	94	96	115	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 204

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓		✓	117	127	113	107	125	117	130	118	95	94	72	86	107	117	117	115	102	116	115	108	107	121	130	130	112	0
2				147	145	152	156	196	191	184	176	171	178	169	164	169	167	145	130	115	94	88	84	90	94	89	98		0
3				107	102	79	[54	50	53	75	58	32	30	29	34	36	34	32	41	66	89	84	49	88	69	50	41]		0
4	✓	✓		[32	36	32	38	40	53	63	53	44	42	40	32	37	36	40	37	37	30	45	55	38	40	37	40]	41	0
5	✓	✓		[38	38	40	40	53	51	61	71]	98	104	102	54	66	75	74	66	45	[21	66	44	24	25	32	28]	55	0
6	✓			54	53	51	44	40	38	32	28	28	37	29	41	40	66	79	59	[53	25	13	13	15	17	24	25]	38	0
7	✓			[20	21	16	16	20	26	29] (	69	71)	66	75	54	58	(57	53)	[28	18	18	41	49	25	24	25	25]	38	0
8				[42]	—	—	—	—	—	—	—	—	57	61	51	42	44	40	[21	20	18	21	18	25	24	22	17]		0
9	✓	✓		[16	16	17	22	24]	50	57	66	70	62	59	51	50	45	54	53	54	[29	40	40	34	32	38	37]	42	0
10	✓			[30	34	29	26	20	16	17	20	20	26	40]	51	66	90	92	108	115	121	108	106	103	106	103	85	64	0
11	✓	✓	✓	74	76	76	94	94	110	126	116	121	125	131	129	106	104	104	76	65	67	80	89	101	81	99	79	97	0
12	✓	✓		71	[54	44	53	65]	76	80	76	86	94	86	80	75	66	54	57	53	50	[29	37	41	40	29	29]	59	0
13	✓	✓		[29	30	24	24	26	28	41	152]	205	197	196	178	154	130	118	71	54	63	37	29	[29	33	40	41]	80	0
14	✓			[41	41	53	51	41	42	45	72]	124	157	152	104	93	104	(81)	62	41	38	≷ 28	26	15	16	26	29 ≷	62	2
15	✓			≷ 38	40	40	42	44 ≷	49	55	42	58	63	53	57	53	51	50	45	40	30	36	33	37	40	41	61	46	2
16	✓	✓		[50	37	40	58]	69	63	70	102	127	127	127	117	92	92	80	70	59	57	51	53	[38	49	42	53]	72	2
17	✓	✓	✓	48	83	95	167	191	169	168	164	167	181	181	139	113	135	140	98	74	59	61	66	76	75	76	103	118	0
18	✓	✓	✓	131	137	158	205	206	235	226	205	173	154	162	174	156	148	111	97	93	107	135	90	65	78	83	84	142	1
19	✓		✓	88	115	125	152	189	202	221	182	191	167	152	117	44	37	40	51	69	59	36	40	46 ≷	34	36	50	102	2
20	✓			[33	29	26	26	32	30	41	61]	124	222	102	89	102	130	121	89	50	54	41	34	[30	28	21	21]	64	1
21	✓	✓		[20	21	21	40]	67	81	80	97	122	140	167	152	127	(98	79)	79	[66	53	41	41	33	42	50	49]	74	0
22	✓	✓		[42	41	42	46	75]	81	78	121	148	120	113	57	49	44	49	41	36	37	26	[24	29	18	13	17]	56	0
23	✓	✓		[21	30	42]	59	72	89	118	178	189	161	143	106	[65	42	40	38	26	38	63	83	25	24	16	16]	70	0
24	✓			[16	16	17	18	24	24	25	24	22	22	38	45	41	42	40	37	25	25	20	22	22	17	16	17]	26	0
25	✓	✓		[22	22	21	26	28	28	26	40	37	36	49	54	66	70	54	37	16	18	20	26	30	25	22	24]	33	0
26	✓			[16	16	24	16	21	17	13	12	9	17	13	16	18	26	25	26	25	24	26	30	28	25	21	20]	21	0
27	✓	✓	✓	[38]	65	80	93	103	93	90	95	103	101	104	107	108	97	92	76	78	[54	42	42	53	50	65	66]	79	0
28	✓			[63	66	78	85	93]	102	112	141	196	212	218	202	157	147	[65	70	55	48	29	15	22	16	16	17]	93	0
29	✓	✓		[25	20	18	13	15	16	12	15	15	20	21	17	15	17	15	13	15	16	22	20	28	28	29	49]	20	0
30																													
31																													
MEANS * 26 DAYS				45	49	51	60	68	73	78	89	102	106	101	89	79	79	72	62	52	48	48	47	42	42	43	46	66	
MEANS † 15 DAYS				44	47	50	65	75	82	86	103	114	111	112	96	85	80	74	61	51	47	51	49	43	43	45	48	69	
MEANS ‡ 5 DAYS				96	108	118	132	155	153	158	147	151	150	147	131	108	98	99	83	78	71	87	79	80	81	91	92	112	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 205

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		155	178	158	154	146	113	81	105	108	91	95	88	90	96	100	95	98	100	80	59	78	67	70	88	104	0
2	✓	✓	✓	105	[151	232	157]	140	123	128	107	95	91	78	79	67	79	79	92	104	105	109	98	112	87	94	97	109	0
3				79	94	102	118	111	124	140	122	106	93	92	92	104	110	112	106	—	—	—	—	—	[192	240	279]		0
4	✓			[212	228	228	268	280	277	263	230	199	186	180	173	157	142	93	123	135	125	107	95	125	171	209	164]	182	0
5	✓	✓		[98	141	218	304	337	276	224	160]	100	101	89	101	105	92	87	90	[76	N 48	N 22	101	125	146	122	98]	136	1
6				[-125	-128	Z-	155	141	114	88	108	45	-52	-31	-16	-51	N 0	-2	N 34	N 50	56	77	134	181	220	233	213]		2
7	✓	✓	✓	[186	187	177	151	122	108]	87	78	65	59	65	80	81	90	87	90	96	88	78	76	[106	108	121	129]	105	0
8				73	64	60	54	57	42	40	50	72	79	86	[110	140]	Z+	Z-	Z-	[177	109	90	91	136	159	265	346]		1
9	✓	✓		[310	286	275	234	197	249	181	140	134	143	125	106]	93	104	92	74	98	83	89	85	87	98	81	68	143	0
10				45	40	45	-36	-35	Z-	N 40	47	59	43	Z+	-31	Z+	N 30	43	63	76	81	108	150	128	116	162	122		2
11	✓	✓		88	74	63	95	112	91	91	95	88	85	91	103	107	116	[151	158	157	148]	93	87	103	131	136	109	107	0
12				112	—	—	—	—	—	162	141	123	126	124	135	138	131	128	123	109	102	101	[119	138	179	160	131]		0
13	✓	✓		[211	231	159]	139	137	126	105	N 65	N 24	68	79	N 77]	108	105	104	109	100	102	112	[120	167	164	149	141]	121	1
14	✓	✓		[140	149	153	140	134	121]	92	78	[64	N 50	N 56	N 58	79	87	90	92	74	93	67]	54	77	100	95	110	94	1
15			✓	141	123	95	95	87	65	75	73	51	106	78	65	77	70	74	86	[196	244	245	Z+	Z+	Z+	Z+	Z+]		0
16				[Z+	Z+	Z+	340	347	Z+	Z+	Z+	210	143	144	151	159	167	169	183	179	150	134	190	261	276	193	164]		0
17	✓	✓		[153	163	156	172	192	181	154	143	190]	153	132	123	120	126	124	125	[135	142	156	169	162	212	203	230]	159	0
18	✓	✓		[248	245	201	173]	142	114	122	141	113	98	102	104	100	95	105	100	96	114	127	137	113	139	144	127	133	0
19	✓	✓	✓	131	138	147	114	88	72	59	55	58	56	59	86	95]	101	110	118	132	122	122	[159	177	152	177	182]	113	0
20	✓	✓		[198	223	205	185]	136	118	101	72	61	60	67	70	77	72	86	95	102	94	91	72	[141	182	216	254]	124	0
21				[272	334	Z+	Z+	Z+	306	284	290	187	124]	87	83	90	97	88	104	103	127	109	110	[162	253	228	207]		0
22	✓	✓		[213	197	203	181	174	102]	109	132	86	89	104	[155	164	157	153	169	174	154	167	199	235	308	214	167]	167	0
23				[235	Z+	Z+	Z+	Z+	Z+	223	119	131	150	190	182	156	140	132	141	150	169	187	218	186	194	198	193]		0
24	✓	✓		[228	246	248	263	254	209	168	149	125]	105	106	95	94	91	94	107	96	101	112	122	125	144	140	125	148	0
25	✓	✓	✓	119	136	140	123	117	96	83	78	71	67	68	73	77	75	81	81	86	87	61	64	74	116	105	92	90	0
26	✓	✓		71	63	72	82	87	90	-46	72	72	80	77	107	124	129	135	150	113	61	68	78	98	82	110	78	86	1
27				93	73	87	46	44	74	Z+	-17	51	33	60	64	76	N 40	78	98	109	109	107	104	89	80	88	89		1
28	✓	✓		49	79	101	95	90	92	68	127	142	110	72	63	73	31	51	44	33	37	68	77	60	82	87	83	76	0
29	✓	✓		87	89	90	96	75	104	94	78	75	59	58	61	72	65	67	94	[122	137	152	182	169	172	164	147	105	0
30	✓	✓	✓	141	138	128	127	140	135	111	91	90	94	128	140	154	136	122	133	120	91	126	122	121	119	118	136	123	0
31	✓	✓	✓	151	153	170	173	140	143	141	137	131	93	82	81	86	107	135	135	156	120	109	119	121	123	137	121	128	0
MEANS * 21 DAYS				156	166	168	163	154	140	115	111	100	92	91	96	101	100	102	108	110	102	101	108	123	138	138	131	121	
MEANS † 20 DAYS				154	163	165	158	148	133	108	105	95	88	87	92	98	98	103	108	108	101	100	109	123	137	134	129	118	
MEANS ‡ 7 DAYS				119	121	120	115	106	97	91	84	81	84	83	86	93	95	99	106	106	102	104	104	111	117	121	121	103	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 206

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	741.5	22.4	49	29.1	13.1		8.9	S	3	SSE	10	SSW	5	SSW	6	CiSt; ACu; FrCu	4- 8	CiSt; ACu; FrCu	4- 6	
2	742.3	21.5	58	30.8	11.5		11.8	S	1	SSE	8	S	4	S	9	FrCu; StCu	1- 3	FrCu; StCu	1- 3	Dew early
3	742.0	23.1	47	37.2	14.3		11.2	S	5	ESE	10	E	3	SSW	8		0		0	Smoky, especially in pm
4	739.8	23.0	67	31.9	17.1		10.4	SSW	8	S	8	S	9	S	7		0		0	Very smoky
5	742.6	20.8	56	29.6	15.2		10.8	S	7	ESE	18	ESE	15	ESE	14	CiSt	1- 3	CiSt	4- 6	Smoky in pm
6	743.5	18.3	48	28.7	12.8		11.4	ESE	19	E	22	E	16	ESE	6	ACu	0- 1	CiSt	0- 1	Much dust in air; air smoky in pm
7	739.5	24.5	28	36.0	15.2		9.7	ESE	5	ENE	10	NNE	4	NNE	10	ACu; CiSt	1- 3	Cu	4- 6	Heavy smoke
8	736.1	29.8	29	38.8	19.2		8.9	W	1	NNE	11	NNE	9	W	3	ACu	1- 6	ACu; Cu; CuNb	7- 8	Thunderstorm in pm; smoky in pm and evening
9	736.2	23.9	68	32.8	18.1	0.04	6.7	..	0	WNW	4	WNW	10	W	2	CiSt; CiCu; ACu	5- 8	CiSt; CiCu; ACu	7- 8	Probably fog early; smoky or hazy in am
10	740.0	20.4	72	31.2	15.3		2.3	N	1	SW	2	N	3	SW	4	ACu; ASt; CuNb	7-10	ACu	4- 6	Slight rain in am
11	741.3	21.6	59	30.2	12.4		11.3	..	0	SSW	6	SSW	6	S	5	StCu	1- 3	StCu	1- 3	Dew early; smoky in pm and evening
12	742.4	19.5	64	28.8	13.4		11.0	S	4	SE	10	SE	8	SSE	8	FrCu; Ci	1- 3		0	Dew early; smoky all day
13	744.2	17.7	53	28.5	12.5		11.3	ESE	9	E	18	E	15	ESE	5	CiSt	1- 3		0	Slightly smoky
14	742.0	21.7	37	32.2	15.3		9.3	ESE	8	ENE	16	NE	13	NE	6	Ci; CiSt	7- 9	Ci; CiSt	4- 6	Smoky in pm and evening
15	737.1	28.2	19	31.2	21.0		8.6	NE	4	NNE	14	W	11	SW	4	CiSt; CiCu; ASt; ACu	7- 9	CiSt; CiCu; ASt; ACu	7- 8	Heavy smoke in pm and evening
16	741.0	21.2	65	27.9	14.0		9.9	SW	3	SSW	7	SSW	12	SSW	6	Cu; StCu	7- 8	Cu; StCu	1- 6	Dew early; slightly smoky in pm
17	744.5	15.9	57	24.2	14.0		9.4	S	5	SSE	12	SE	8	S	9	FrCu	1- 3		0	Slightly hazy
18	743.1	15.0	53	25.3	7.7		11.0	SE	6	ESE	12	SSE	6	S	7		0		0	Smell of smoke in eve., possibly just from burnt-over ground
19	742.7	18.6	48	27.0	11.0		11.1	SSE	3	E	8	ESE	5	SSE	8		0		0	Smoky in evening
20	741.6	20.8	40	29.9	10.3		4.4	S	1	E	4	WSW	1	SSW	6	CiCu; CiSt	7-10	CiCu; CiSt	4- 6	Smoky in evening
21	739.1	22.3	39	35.9	9.8		10.6	S	2	SE	2	SSW	1	S	4	CiCu	1- 3		0	Smoky
22	739.2	22.5	49	30.0	11.0		10.6	SSW	3	S	6	SW	7	SSW	2	CiCu	1- 3		0	Smoky
23	741.4	18.7	85	31.3	12.0		9.5	..	0	ESE	6	SSW	5	SSW	10	Cu; FrCu	4- 6	Cu; FrCu	1- 3	Fog until 9h; smoky at 9h
24	741.7	19.7	64	27.7	14.7		9.0	SSW	8	SE	11	SSE	6	SE	4	CiCu; CiSt; FrCu	4- 6	FrCu	4- 6	Dew early; hazy
25	743.2	18.3	57	29.8	12.0		6.7	ESE	4	E	10	ENE	5	SE	2	Ci; CiCu	4- 8	ACu; StCu	7- 8	Fires in SW
26	740.8	26.0	31	30.6	18.6	T	0.2	NE	3	NNE	7	NE	1	..	0	ASt; Cu; StNb	7-10	ASt; Cu; StCu	7-10	Light showers in early am and evening
27	738.5	22.2	76	28.8	20.3	0.03	0.0	SSE	1	E	2	S	7	..	0	ACu; ASt; StNb	10	ACu; ASt; StNb	10	Light showers at intervals
28	739.3	19.0	95	21.9	18.4	0.09	0.0	SSW	1	SE	5	E	3	E	1	ASt; ACu; CuNb	10	ASt; ACu; CuNb	10	Few light showers
29	740.3	19.8	86	30.4	18.3	T	5.2	SSE	1	SE	2	..	0	S	6	StCu; Nb	10- 7	StCu; FrCu; Cu	6- 4	Clearing in evening
30	740.8	18.7	67	31.1	13.0		7.6	S	2	SSE	8	SSW	1	S	6	CiSt; ACu; Cu	7- 8	Cu	4- 6	Clearing in evening; fire in SE
31	738.2	22.0	57	32.2	13.6		10.3	S	2	S	4	SW	8	SW	3	CiSt; ACu; ASt	1- 3	CiSt; ACu; ASt	4- 6	Cloudy in evening; air hazy or smoky
SUM						0.16														
MEAN	740.8	21.2	56	30.4	14.4	.	8.4		3.9		8.8		6.7		5.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 207

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		89	89	112	127	134	139	150	139	125	115	127	123	116	108	116	115	61	34	65	127	123	135	135	137	114	0
2	✓	✓		139	[101	64	91]	91	87	96	117	116	120	137	149	149	133	117	103	64	48	58	57	67	91	100	102	100	0
3	✓			86	80	79	80	71	65	60	67	79	90	91	92	66	67	72	75	77	[49	40	44	36	47	39	38]	66	0
4				[38	39	27	26	26	23	23	22	26	29	30	34	34	36	23	36	46	54	49	75	90	85	70	67]		0
5	✓	✓		[53	38	29	23	18	25	27	38]	35	51	39	44	48	43	49	42	[27	23	26	27	35	54	44	43]	37	1
6	✓			[27	29	38	67	60	49	48	44	32	62	110	94	81	(75)	64	58	42	36	38	38	43	49	57	75]	55	2
7	✓	✓		[89	94	101	117	129	139]	163	182	224	206	199	[139	105	86	98	92	62	52	90	56	60	98	91	122]	116	0
8	✓			185	204	227	235	224	242	263	267	194	179	177	166	135	103	≷ 26	62≶	[66	82	95	91	72	66	46	29]	143	1
9	✓	✓		[27	35	36	39	51	39	51	72	66	66	69	91]	81	81	89	91	75	91	105	115	126	127	151	168	81	0
10	✓			186	234	206	≷187	146	101≶	189	187	144	140	≷113	139	135≶	143	147	163	151	111	81	57	89	116	87	106	140	2
11	✓	✓		115	127	143	98	94	117	127	141	126	127	134	113	115	87	[25	16	26	36]	128	150	143	116	116	134	106	0
12	✓			112	115	117	128	102	65	42	44	57	62	51	51	53	56	54	61	69	84	64	[42	48	44	49	48]	67	0
13	✓	✓		[47	54	90]	102	111	127	137	[112	80	80	66	62]	57	(57)	66	79	76	75	77	[92	64	66	66	70]	80	1
14	✓	✓		[90	94	101	115	121	115]	137	141	[202	213	198	157	159	141	106	132	105	53	115]	187	179	149	146	137	137	1
15	✓			103	134	191	177	174	227	188	156	92	34	69	127	149	149	153	149	[39	16	25	20	26	27	16	17]	102	0
16	✓			36	42	39	47	43	57	27	34	53	67	62	56	43	43	36	39	39	47	84	77	54	65	94	110	54	0
17	✓	✓		[100	118	125	113	97	90	65	61	53]	60	62	65	75	81	71	65	[64	58	54	52	49	43	43	36]	71	0
18	✓	✓		[38	51	64	79]	94	126	113	77	74	101	95	112	117	110	115	107	100	79	64	52	49	54	54	65	83	0
19	✓	✓		[77	90	96	118]	153	189	208	205	208	202	166	128	129	122	113	115	92	98	89	[77	67	87	87	80]	125	0
20	✓	✓		80	91	98	103	127	149	162	224	254	256	234	193	192	(191	165)	141	153	144	149	153	[85	79	75	54]	148	0
21	✓			[52	49	48	53	54	43	54	56	90	123]	153	139	135	129	103	52	47	51	82	92	[52	40	49	51]	75	0
22	✓	✓		[58	56	69	76	60	86]	89	101	100	90	77	[51	40	31	47	38	22	29	52	61	53	40	54	66]	60	0
23	✓			[52	48	39	34	38	38	51	67	76	56	54	54	60	65	65	62	65	64	60	61	65	65	70	57]	57	0
24	✓	✓		[49	43	31	36	32	40	52	62]	76	70	69	80	89	92	89	91	77	64	65	62	80	81	95	116	68	0
25	✓	✓		125	127	138	149	166	187	189	206	224	225	237	201	211	219	207	187	176	165	174	173	165	139	166	211	182	0
26	✓	✓		238	274	270	250	233	218	≷188≶	213	192	177	173	127	134	141	100	75	116	147	156	150	162	168	186	174	178	1
27	✓			144	232	226	249	261	232	≷232	227≶	287	290	239	202	177	(141)	141	132	139	155	161	163	174	182	189	188	198	1
28	✓	✓		175	165	171	175	175	155	116	80	74	94	112	117	117	123	144	150	150	146	158	163	179	179	176	170	144	0
29	✓	✓		137	149	162	174	147	131	127	153	189	196	202	200	199	198	189	134	[87	70	67	71	79	87	96	107]	140	0
30	✓	✓	✓	117	126	129	128	120	125	132	151	146	133	101	91	77	82	92	95	98	87	87	112	112	116	115	112	112	0
31	✓	✓	✓	107	105	105	102	126	125	121	103	102	141	151	162	164	152	[72	76	74]	113	126	137	145	149	143	140	123	0
MEANS * 30 DAYS				98	106	111	116	115	118	120	124	126	128	126	118	114	108	98	93	81	77	88	92	89	92	94	99	106	
MEANS † 20 DAYS				98	101	107	111	114	120	122	129	133	136	132	120	119	114	104	97	85	81	95	104	101	103	107	112	110	
MEANS ‡ 7 DAYS				114	124	138	141	148	166	171	172	155	148	148	142	123	115	105	102	83	71	86	95	99	105	106	113	124	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 208

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR ACTE
1	✓	✓		63	64	83	92	86	85	106	115	111	122	125	114	111	100	114	114	54	24	59	108	108	114	118	112	96	0
2	✓	✓	✓	104	[73	34	58]	42	73	79	97	109	128	142	147	148	134	119	103	60	43	53	53	63	81	86	89	88	0
3	✓			85	76	73	64	64	59	52	64	79	91	95	89	65	55	64	63	60	[38	35	47	35	38	30	32]	61	0
4				[34	26]	—	—	—	—	—	—	—	—	[26	30	30	29	21	33	43	52	53	72	75	64	53	48]		0
5	✓	✓		[53	30	24	19	16	21	26	47]	53	62	47	45	47	48	53	39	[26	19	29	37	35	50	48	52]	39	1
6	✓			[38	39	42	63	64	53	50	54	63	90	122	108	89	81	(63)	62	48	40	38	35	38	40	48	62]	60	2
7	✓	✓		[68	73	86	96	117	132]	147	180	222	218	206	[136	104	76	92	91	62	48	78	54	52	86	68	89]	108	0
8	✓		✓	150	172	196	208	193	225	234	234	168	165	172	165	136	103	112	{ 90}	[60	83	94	89	63	50	35	23]	134	1
9	✓	✓		[21	15	25	26	30	25	29	65	59	64	64	78]	84	86	95	104	84	90	97	97	108	100	114	134	71	0
10	✓			152	203	177	168	165	185	167	168	137	140	168	150	{ 126}	146	138	146	136	103	67	40	65	87	53	65	131	2
11	✓	✓		79	90	114	91	78	96	101	119	113	124	136	102	109	84	[24	25	28	34]	124	128	129	102	91	119	93	0
12	✓			112	87	94	98	89	57	38	42	(57	62)	50	49	50	47	53	52	63	80	62	[50	47	47	39	47]	61	0
13	✓	✓		[34	38	79]	89	95	111	122	[87	73	75	62	65]	63	72	(73)	78	79	76	80	[87	60	63	72	73]	75	1
14	✓	✓		[90	92	101	103	124	132]	153	184	[226	230	214	166	165	149	114	124	98	45	107]	178	164	126	126	122	139	1
15	✓		✓	90	114	164	153	144	192	166	141	95	34	74	137	182	177	173	155	[37	16	24	16	24	18	18	16]	98	0
16	✓			[24	21	23	25	24	20	16	26	47	59	49	50	49	39	34	37	38	39	75	62	35	42	80	91]	42	0
17	✓	✓		[90	97	87	75	74	74	70	72	58]	70	68	73	79	78	64	[60	53	52	50	53	50	40	35	37]	65	0
18	✓	✓	✓	[29	34	50	63]	78	98	80	79	73	106	109	111	114	111	113	102	96	68	53	57	54	50	52	60	77	0
19	✓	✓		[63	62	65	84]	138	172	195	201	210	208	167	126	125	115	104	103	90	91	76	[63	62	70	65	60	113	9
20	✓	✓		65	58	74	80	109	129	152	209	248	231	218	186	172	185	(147)	124	136	126	122	134	[76	65	60	47]	131	0
21	✓			[42	30	30	33	26	40	38	42	70	111]	138	128	126	124	98	52	43	42	75	87	[48	38	38	38]	64	0
22	✓	✓		[45	52	52	57	48	47]	67	86	100	90	73	[42	39	28	37	34	19	20	40	40	35	25	37	49]	48	0
23	✓			[39	24	15	21	23	23	37	52	58	40	39	42	42	54	54	49	53	50	40	48	48	48	53	47]	48	0
24	✓	✓		[38	34	28	26	28	37	47	50]	67	70	63	73	75	87	85	79	69	55	59	55	62	68	78	100	60	0
25	✓	✓	✓	113	103	111	119	141	159	180	193	210	212	231	196	204	219	203	164	155	136	146	140	136	103	128	162	161	0
26	✓	✓		195	236	232	210	199	184	{ 192}	180	168	150	143	103	109	109	74	54	96	123	134	131	124	136	141	154	149	1
27	✓			113	170	178	221	245	201	{ 203	236}	257	269	218	164	160	(146	128)	124	124	134	131	132	128	126	126	138	170	1
28	✓	✓		156	136	126	140	143	124	98	76	73	84	106	112	113	122	137	141	148	138	147	141	158	154	140	131	127	0
29	✓	✓		118	128	136	140	123	102	109	132	165	186	184	182	168	160	159	122	[76	64	59	54	67	69	74	86	119	0
30	✓	✓	✓	96	95	94	97	98	92	109	129	137	124	94	78	64	62	(65)	69	67	75	75	97	94	90	89	81	90	0
31	✓	✓	✓	73	79	75	79	100	101	97	90	98	128	(136)	143	152	134	[67	65	63]	89	97	106	106	115	103	87	99	0
MEANS * 30 DAYS				81	84	89	93	97	102	105	115	120	125	124	113	109	104	95	88	74	68	78	81	76	75	75	80	94	
MEANS † 20 DAYS				80	79	84	87	93	100	108	120	129	134	129	114	112	108	97	90	78	71	84	90	87	85	86	92	97	
MEANS ‡ 7 DAYS				96	100	111	115	125	143	151	155	147	145	145	138	121	112	102	95	74	60	75	86	85	88	86	90	110	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 209

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	117	103	109	102	95	75	63	73	92	87	79	93	111	106	118	111	98	93	93	119	134	141	98	86	100	0
2	✓	✓		101	111	111	89	118	156	116	104	129	134	⌈143	155	148	146	144	140	147	142	165	158	190	201	198	151⌋	142	0
3	✓	✓	✓	128	134	138	123	113	104	91	82	78	57	75	80	81	87	89	101	118	116	106	112	124	⌈139	139	153⌋	107	0
4	✓	✓		⌈153	156	177	152	148	126⌋	108	89	120	91	77	78	79	93	91	121	120	116	111	155	119	119	128	127	119	0
5	✓	✓	✓	114	120	138	155	134	121	97	109	118	117	110	110	119	134	142	148	135	125	102	117	107	107	109	133	122	0
6				157	165	182	⌈253	260	Z+	Z+	258⌋	151	123	127	128	135	134	114	⌈143	156	159	175	171	146	171	169⌋	138		0
7	✓	✓		120	105	120	129	⌈174	173	253	181⌋	106	98	89	89	101	114	120	118	119	137	105	129	125	102	88	82	124	0
8	✓	✓	✓	88	87	107	76	63	47	43	43	50	82	65	86	101	97	106	111	107	111	109	108	108	114	131	107	89	0
9	✓	✓		105	95	101	80	89	81	74	73	47	93	104	83	100	102	95	109	110	119	123	124	120	127	138	114	100	0
10	✓	✓	✓	118	97	93	110	100	70	71	65	70	79	83	89	96	92	102	106	95	102	92	105	162	88	112	137	97	0
11				⌈154	157	166	166	148	156	128	111⌋	91	92	92	77	78	97	92	92	101	52	43	49	⌈228	322	Z+	Z+⌋		0
12				⌈Z+	Z+	212	98⌋	79	68	48	62	68	71	68	89	88	92	93	⌈92	111	128	168	165	N 46	N 116	Z	90		1
13				N 89	180	294	258	148	106	133	152	120	64	55	63	73	83	92	95	⌈155	184	340	Z+	318	198	168	148⌋		1
14	✓			⌈150	101	109	125	164	219	166	141⌋	125	109	100	87	95	82	105	96	96	86	75	96	⌈182	240	194	183⌋	130	0
15	✓	✓		132	109	102	88	56	46	46	43	49	57	57	73	78	78	65	95	93	102	80	⌈131⌋	81	113	102	98	82	0
16				117	77	63	67	95	82	56	52	52	64	64	74	68	73	73	N 66	71	67	⌈52	102	Z+	Z+	Z+	Z+⌋		0
17				⌈Z+	Z+	Z+	270	159⌋	77	49	45	48	45	44	56	61	N 68	78	79	78	⌈178	238	219	160	Z+	Z+	303⌋		1
18	✓	✓		⌈213	124	136	227	247	101	220	134⌋	124	100	95	77	79	79	82	79	102	103	86	⌈102	109	98⌋	95	102	121	0
19				123	138	95	182	134	232	200	180	110	58	46	Z+	Z	Z+	Z+	108	95	83	73	86	86	83	91	107		2
20				Z	N 36	111	119	101	76	83	95	78	77	75	73	75	79	89	79	66	89	96	88	66	65	79	108		1
21	✓	✓	✓	113	89	86	85	82	73	61	57	62	64	66	77	76	91	96	97	91	92	73	111	120	98	102	102	86	0
22	✓	✓	✓	109	101	126	124	113	103	66	45	54	60	64	62	63	65	73	81	77	80	93	75	78	96	80	76	82	0
23	✓	✓		87	89	91	88	83	76	65	70	80	85	83	79	94	96	105	106	88	118	90	90	85	95	68	92	88	0
24	✓	✓	✓	92	96	100	111	124	119	85	79	73	80	83	83	87	85	95	97	101	95	95	96	100	129	112	103	97	0
25	✓	✓	✓	113	121	113	104	94	80	75	75	74	76	80	78	77	85	77	86	77	82	71	73	104	108	95	90	88	0
26	✓	✓	✓	85	78	67	57	45	41	34	34	44	50	51	58	64	67	74	73	70	72	58	40	48	51	47	50	57	0
27	✓	✓	✓	47	54	45	45	43	67	62	51	35	66	67	55	74	50	59	67	51	77	96	110	116	111	108	104	69	0
28	✓			106	97	83	79	82	67	60	71	118	102	79	74	80	83	77	97	111	117	92	83	72	89	79	73	86	0
29	✓			62	45	59	52	58	54	40	45	56	60	57	73	65	67	76	82	88	74	65	64	74	73	83	72	64	0
30	✓			54	62	71	72	66	65	60	56	47	45	70	72	73	78	79	77	72	65	54	70	87	122	131	138	74	0
31																													
MEANS * 22 DAYS				109	99	104	103	104	94	89	78	80	81	81	82	88	90	94	100	98	101	92	103	111	116	111	108	96	
MEANS † 18 DAYS				113	104	109	108	107	92	91	78	78	82	82	84	90	93	96	103	100	105	97	109	113	113	108	106	98	
MEANS ‡ 11 DAYS				102	98	102	99	91	82	68	65	68	74	75	79	86	87	94	98	93	95	90	97	109	107	103	104	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 210

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	740.9	20.3	62	26.5	14.1		3.7	SW	1	S	5	SSW	5	SSW	5	Ci; CiCu; ACu; ASt	9-10	Ci; CiCu; ACu; ASt	9-10	
2	743.6	17.0	62	24.1	15.5		9.6	S	7	SE	12	ESE	12	ESE	6	CiSt; ACu; ASt	2-10	CiSt	7-10	
3	742.4	15.6	63	24.6	12.8		3.2	ESE	5	E	7	S	1	S	7	CiSt; ACu; ASt; Nb	10	CiSt; ACu; ASt; Nb	10	
4	743.9	18.0	56	24.2	7.5		5.1	S	1	..	0	SSE	4	S	7	CiCu; Cu; FrCu	4- 8	CiCu; Cu; FrCu	4- 6	
5	745.7	17.5	49	24.7	6.8		10.6	S	2	ESE	5	SE	4	S	4	CiSt; ASt; FrCu	1- 3	CiSt; ASt; FrCu	1- 3	Dew early
6	744.1	18.0	61	27.7	8.5		10.4	S	2	SE	5	S	3	S	6	CiSt	0- 1	CiSt	0- 1	Dew early
7	741.9	17.9	66	26.7	8.0		10.5	S	3	SE	3	SSW	4	SSW	2	CiSt; StCu	1- 3	CiSt; StCu	1- 3	Fog until 8h
8	741.2	18.8	67	25.6	9.6		4.4	..	0	N	1	SW	10	SW	1	Ci; CiSt; StCu	7-10	StCu; CuNb	7-10	Light rain at 20h
9	742.1	17.2	86	25.3	11.5	0.01	4.7	..	0	NW	1	SW	9	SSW	3	ACu; Cu; CuNb	7- 8	ACu; Cu; StCu	7- 8	Light rain at 9h
10	744.7	19.0	74	27.2	9.2		9.4	SW	1	..	0	SSE	4	S	4	CiSt; ASt; StCu	3- 6	CiSt	1- 3	Dew early
11	745.0	21.7	49	33.3	11.2		10.0	S	2	E	2	ENE	3	SSW	3		0		0	Dew, possibly fog, early; hazy in am; smoky in pm
12	742.8	27.2	22	38.3	14.5		10.3	..	0	N	9	NW	7	ESE	2	ASt	1- 3	ASt	1- 3	Smoky
13	743.0	27.2	19	38.3	11.8		10.0	..	0	NW	1	WNW	4	S	7	CiCu; ACu	1- 3	CiCu; ACu	1- 3	Smoky in evening
14	745.0	21.5	54	37.1	13.5		10.2	S	1	ESE	3	E	4	S	3	CiSt	1- 3	CiSt	1- 3	Smoky
15	746.1	26.3	19	36.1	13.8		10.3	..	0	ENE	4	ESE	4	SE	1		0		0	Smoky in pm
16	744.4	27.0	23	36.1	16.2		10.2	..	0	NE	8	NNE	4	S	1		0		0	Smoky
17	741.3	24.1	17	36.8	12.7		10.0	..	0	N	3	WNW	8	SSE	2	Ci; CiSt	7- 8	Ci; CiSt	7- 8	Smell of smoke in evening
18	739.7	20.6	74	29.4	7.2		9.9	WNW	1	..	0	..	..	SSW	2	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Fog early; smoky in am and pm
19	737.5	16.1	94	21.7	10.0	0.01	1.0	..	0	NNW	5	SSW	8	WNW	6	ACu; Cu; CuNb	8-10	ACu; Cu; CuNb	7-10	Heavy fog early; heavy thunder shower 12h–13h
20	741.3	16.4	84	21.9	13.5	0.48	3.6	WSW	9	SW	7	SW	7	S	4	Cu; CuNb	5- 8	Cu; CuNb	7- 8	
21	742.7	16.2	71	21.6	13.6	T	7.0	SSE	2	SSE	9	SSE	5	SSW	2	StCu; FrCu	10- 4	FrCu; CiSt	1- 3	
22	740.5	17.6	64	29.1	8.4		7.4	..	0	NE	1	W	4	S	1	Ci; CiCu; ACu	4- 6	Ci; CiCu; ACu	4- 6	Dew early
23	740.0	18.5	76	25.6	13.5		5.7	..	0	..	0	WSW	7	SSW	5	ACu; ASt; Cu; FrCu	7- 8	ACu; ASt; FrCu; CuNb	7- 8	Light rain at 20h
24	742.9	17.5	70	23.5	11.5	0.02	6.4	..	0	..	0	SSW	2	S	6	ACu; StCu; Cu	4- 6	ACu; StCu; Cu	7- 8	Fog early
25	743.1	16.6	62	26.1	10.5		10.0	S	2	ESE	7	E	2	SE	2	CiCu; CiSt	1- 3		0	Dew early
26	739.4	20.7	43	31.6	12.5		8.8	ESE	1	NNE	5	NW	7	..	0	ACu; ASt	2- 6	ACu; ASt	4- 6	
27	738.3	19.5	83	26.8	11.8		2.0	..	0	..	0	N	4	..	0	ACu; Cu; StCu	7-10	ACu; Cu; StCu	7-10	Fog until 8h5
28	739.5	16.1	90	20.5	13.6	0.04	2.4	WSW	1	SW	7	SW	17	SW	1	ACu; Cu; NbSt	7-10	Cu; ACu	7-10	Light rain in am; clear in evening
29	748.1	15.0	61	22.4	5.8	0.01	4.4	..	0	..	0	SSW	2	S	2	ACu; StCu	7- 8	ACu; Cu; StCu	4- 6	Clear in evening
30	748.5	14.5	58	23.6	6.1		9.9	S	1	ESE	1	SE	2	S	6		0		0	Dew early
31																				
SUM						0.57														
MEAN	742.7	19.3	59	27.8	11.2		7.4		1.5		3.7		5.4		3.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 211

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	158	183	189	201	209	213	237	226	177	171	166	129	96	115	115	123	144	157	171	163	151	165	165	175	167	0
2	✓	✓		176	177	156	125	112	108	117	125	117	95	[84	65	57	62	69	79	57	49	54	75	66	86	98	116]	97	0
3	✓	✓	✓	138	149	153	175	189	205	209	212	209	222	226	211	213	(195	165)	166	138	129	139	127	116	[106	102	100]	166	0
4	✓	✓		[103	102	105	111	112	125]	146	159	151	155	157	161	165	166	166	145	131	125	138	108	155	163	163	156	140	0
5	✓	✓	✓	164	165	151	137	149	156	165	165	151	133	139	129	127	106	94	98	94	117	137	120	135	147	146	140	136	0
6	✓			139	134	118	[100	80	74	62	81]	126	140	127	112	125	132	147	[54	27	75	67	74	100	102	135]	159	104	0
7	✓	✓		164	173	166	145	127	122	67	125	180	185	171	165	161	128	98	131	126	82	138	135	151	186	191	189	146	0
8	✓	✓	✓	181	187	183	220	257	288	302	334	316	188	174	137	111	127	127	133	135	139	165	151	147	162	147	165	186	0
9	✓	✓		171	202	225	249	245	264	247	259	{222}	183	158	169	152	159	150	138	143	140	127	145	150	141	140	149	180	0
10	✓	✓	✓	161	185	206	186	176	205	199	245	231	226	186	181	177	(188	183)	177	175	155	162	135	91	163	143	118	177	0
11	✓			[118	112	116	117	117	115	120	150]	202	201	186	220	225	220	201	208	188	191	222	207	[79	46	51	52]	153	0
12				[61	92	137	225]	214	222	275	263	206	185	161	155	173	159	174	[125	91	92	56	32]	56	82	92	91		1
13				69	60	56	87	108	147	138	115	145	229	267	225	206	199	189	168	[71	67	26	22	42	76	84	86]		1
14				[76	94	86	74	64	66	80	101]	120	135	164	180	185	85	81	138	166	174	149	140	[98	65	91	123]		0
15	✓	✓		176	208	214	235	279	319	331	363	355	312	289	221	[158	98	69	106	137	138	175	214]	238	207	208	235	220	0
16	✓			198	257	303	328	204	226	299	286	292	234	218	183	182	176	176	171	166	171	[176	120	25	20	21	25]	186	0
17	✓			[27	36	39	54	89]	176	224	276	302	303	285	255	224	(175	169)	170	161	[51	38	54	77	39	40	44]	138	1
18	✓	✓		[54	76	74	57	56	122	87	111]	107	140	159	158	163	161	155	[147	100	75]	141	[123	112	139]	149	152	117	0
19	✓			135	125	{115	64	69	66	81	105}	128	165	187	177	{146	111	95	103	128}	149	144	126	137	145	158	147	125	2
20	✓			{129	100}	137	139	155	153	153	161	162	159	146	147	127	115	113	117	132	127	100	105	143	176	149	116	136	1
21	✓	✓	✓	147	177	199	194	188	183	191	195	176	162	161	162	151	149	126	126	152	164	166	139	139	179	195	185	167	0
22	✓	✓	✓	168	171	162	158	162	171	202	259	278	272	233	231	229	218	218	211	181	170	153	177	199	185	201	211	201	0
23	✓	✓		204	206	189	185	193	208	212	219	201	179	174	176	159	155	151	156	158	{122}	161	158	157	156	150	141	174	0
24	✓	✓	✓	162	168	171	155	155	175	191	238	232	211	182	174	171	177	(158)	134	131	155	151	156	153	139	168	179	170	0
25	✓	✓	✓	151	149	157	168	176	188	185	187	209	189	185	187	151	166	186	188	183	164	175	149	131	140	176	194	172	0
26	✓	✓	✓	202	215	232	254	300	319	320	335	310	287	265	255	226	205	199	213	222	221	245	258	258	250	286	289	257	0
27	✓	✓	✓	301	297	323	333	339	248	259	281	343	275	222	221	233	216	208	186	164	155	152	149	144	147	153	164	230	0
28				171	188	195	204	213	227	246	212	163	151	127	129	126	120	125	132	149	149	158	170	—	—	—	—		0
29				—	—	—	—	—	—	—	—	—	—	255	213	204	191	187	180	182	193	198	206	202	214	209	235		0
30				264	244	225	228	225	226	234	269	324	308	247	214	200	185	159	163	171	143	149	165	153	126	113	115		0
31																													
MEANS * 24 DAYS				155	165	170	170	172	185	192	212	216	199	187	176	164	155	147	145	141	134	146	140	136	141	147	150	164	
MEANS †				166	177	181	183	190	201	204	224	220	199	185	174	161	155	146	148	143	136	153	149	150	159	166	170	172	
MEANS ‡ 11 DAYS				176	186	193	198	209	214	224	243	239	212	194	183	171	169	162	160	156	157	165	157	151	162	171	175	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 212

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	103	136	137	144	143	160	186	197	159	161	164	119	97	100	112	115	131	135	138	131	118	123	138	144	137	0
2	✓	✓		144	137	135	112	96	85	102	103	106	90	[79	63	57	62	65	73	55	48	52	63	59	60	55	83]	83	0
3	✓	✓	✓	111	124	134	149	159	168	174	195	196	205	201	186	197	182	(150)	138	109	108	128	112	102	[85	74	67]	144	0
4	✓	✓		75	75	74	74	78	89	114	119	103	140	152	159	162	149	153	126	112	113	120	85	132	136	129	124	116	0
5	✓	✓	✓	114	102	101	91	102	115	138	131	141	138	147	135	117	108	86	89	79	96	129	106	114	118	119	98	113	0
6	✓			86	91	86	[52	52	30	33	64]	111	125	107	96	108	108	120	[49	25	62	52	64	86	83	100]	114	79	0
7	✓	✓		134	123	123	120	80	52	35	78	165	176	168	161	159	117	90	123	114	72	113	102	109	135	150	150	119	0
8	✓	✓	✓	141	150	135	149	198	243	278	303	290	182	162	136	114	125	109	114	114	114	123	114	101	94	97	115	154	0
9	✓	✓		137	148	160	190	201	203	206	204	}185{	173	148	162	144	147	135	124	123	111	101	106	108	90	91	113	146	0
10	✓	✓	✓	112	135	160	131	113	159	150	185	189	198	180	178	167	(172)	176	164	156	129	131	109	68	134	114	97	146	0
11	✓			[90	76	78	80	90	85	91	114]	170	182	162	197	206	197	174	183	168	159	180	190	[70	33	25	23]	126	0
12				[32	44	78	199]	205	208	276	249	172	158	126	135	156	156	165	[103	80	80	42	28]	—	—	—	—		1
13				—	—	—	—	—	—	—	—	—	217	268	244	223	215	193	160	[58	59	24	19]	—	—	—	—		1
14				—	—	—	—	—	[39	57	76]	100	123	138	—	155	69	69	115	147	148	112	104	[75	44	63	78]		0
15	✓	✓		125	168	185	199	235	291	317	349	363	319	290	211	[150	89	65	84	114	126	146	150]	191	148	158	170	193	0
16	✓			152	201	272	272	170	193	258	255	243	198	177	156	170	164	170	161	146	129	[156	95	24	15	13	13]	158	0
17	✓			[16	23	28	48	84]	173	216	256	275	290	281	268	238	205	(176)	176	160	[48	26	39	58	26	24	25]	132	1
18	✓	✓		[40	70	65	53	48	98	70	76]	78	125	138	154	152	150	153	[143	89	65]	118	[97	86	109]	109	113	100	0
19	✓			102	85	}76{	52	48	47	65	91	}111{	166	185	161	}(126){	91	81	97	}98{	124	137	129	126	125	122	117	107	2
20	✓			125	108	112	109	122	125	124	126	136	149	138	135	114	103	101	108	113	109	84	90	125	146	111	81	116	1
21	✓	✓	✓	75	178	176	179	170	149	162	170	150	152	153	(155)	141	134	125	113	135	136	143	114	103	137	156	155	144	0
22	✓	✓	✓	124	113	97	117	125	134	160	216	241	251	210	210	225	218	209	206	167	150	132	153	162	153	165	172	171	0
23	✓	✓		162	162	152	150	154	174	186	178	164	164	158	165	158	148	148	137	136	}97{	126	140	136	128	136	124	149	0
24	✓	✓	✓	132	103	103	111	100	124	147	176	160	171	168	164	150	(146)	136	108	108	126	132	137	132	113	123	141	134	0
25	✓	✓	✓	118	113	124	135	152	153	162	162	202	190	183	180	147	156	162	166	168	154	155	124	107	122	150	173	152	0
26	✓	✓	✓	172	184	216	234	263	303	306	326	301	252	247	237	211	209	203	211	217	209	216	238	244	245	260	282	241	0
27	✓	✓	✓	287	289	290	306	332	216	255	272	339	251	221	209	206	215	203	182	154	136	122	114	109	113	120	136	212	0
28				147	141	149	167	184	205	222	196	125	129	109	109	94	91	91	95	123	119	112	124	—	—	—	—		0
29				—	—	—	—	—	—	—	—	—	—	234	196	184	182	165	167	162	170	165	167	158	172	171	201		0
30				—	—	—	—	—	—	—	—	—	324	245	205	185	172	147	150	161	137	130	148	150	109	96	92		0
31																													
MEANS * 24 DAYS				120	129	134	136	138	149	164	181	191	185	176	167	155	146	138	133	125	115	123	117	111	111	114	118	141	
MEANS † 18 DAYS				128	139	143	147	153	162	175	191	196	185	176	166	153	146	138	134	127	118	129	122	121	125	130	136	148	
MEANS ‡ 11 DAYS				135	148	152	159	169	175	193	212	215	196	185	174	161	160	152	146	140	136	141	132	124	131	138	144	159	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 213

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		144	151	124	112	107	100	76	85	63	74	90	72	81	82	81	83	91	70	56	72	74	83	75	73	88	0
2	✓	✓	✓	60	59	50	55	51	43	39	42	50	67	66	62	67	68	71	83	73	59	56	103	56	44	44	46	59	0
3	✓	✓	✓	44	44	41	39	34	36	27	31	42	43	48	50	58	59	56	61	54	37	43	64	62	59	62	60	48	0
4				64	59	49	40	—	—	—	—	34	39	40	44	50	70	83	82	82	73	68	55	65	68	57	59		0
5	✓	✓	✓	66	66	44	43	40	36	35	35	39	43	44	49	54	66	81	83	78	78	92	94	86	88	76	71	62	0
6	✓	✓	✓	78	78	75	71	63	68	43	46	58	72	72	72	74	87	78	85	77	44	60	65	67	72	67	73	69	0
7				75	75	68	138	138	90	87	102	93	59	68	—	—	—	86	77	67	54	55	76	89	86	88	92		0
8	✓	✓	✓	95	118	114	100	88	57	83	96	85	77	78	78	77	87	92	89	91	88	95	94	86	71	77	88	88	0
9	✓	✓	✓	89	102	94	105	97	111	94	109	119	89	83	87	94	114	137	139	149	147	137	140	136	124	114	114	114	0
10	✓	✓	✓	121	124	106	95	86	76	70	64	63	75	78	89	102	101	93	96	93	79	73	77	80	77	66	58	85	0
11	✓	✓	✓	57	51	60	67	49	52	46	46	52	60	68	82	74	83	82	81	83	74	57	74	70	71	59	58	65	0
12	✓	✓	✓	49	55	56	61	51	58	44	42	45	55	66	60	68	74	68	75	71	60	50	63	85	74	54	59	60	0
13	✓	✓	✓	59	56	48	49	52	37	36	35	51	58	64	68	68	70	67	73	75	54	51	55	46	55	45	49	55	0
14	✓	✓	✓	40	35	37	35	32	35	30	29	43	50	76	79	79	73	71	81	71	54	44	44	55	59	46	50	52	0
15				47	56	49	42	45	50	42	34	42	45	54	57	60	68	75	66	63	50	34	48	39	—	—	—		0
16				—	—	—	—	—	—	—	—	36	36	36	41	46	49	51	62	50	39	36	42	39	72	89	96		0
17				105	89	63	60	52	49	45	43	49	60	73	76	72	75	85	72	78	89	159	Z+	141	70	72	66		0
18				48	46	49	44	45	43	45	46	—	—	—	60	61	—	—	72	—	58	52	74	30	29	35	35		0
19				39	34	34	31	39	41	34	40	45	46	55	60	N 37	Z−	105	N 55	−59	Z−	−70	139	85	95	88	92		2
20	✓	✓		82	100	92	82	103	91	76	56	63	85	88	92	86	63	79	N 35	61	63	51	68	70	75	63	50	74	1
21	✓	✓	✓	57	65	80	95	100	88	81	93	51	51	61	67	66	68	70	70	63	49	49	39	45	48	55	63	66	0
22				61	61	62	57	56	47	50	46	50	N 36	N 54	42	Z	79	70	N 63	−6	83	−1	63	77	N 32	65	85		1
23	✓	✓	✓	92	85	102	102	93	48	51	70	80	83	88	82	78	80	(81	82)	83	82	70	74	61	60	64	77	78	0
24	✓	✓	✓	75	79	66	64	57	51	60	51	(62	73)	83	76	79	73	87	96	82	70	76	78	79	77	82	92	74	0
25				101	92	92	95	80	81	78	88	82	79	N 35	Z+	Z	N 10	127	88	90	75	82	71	64	64	59	64		1
26	✓	✓	✓	64	61	47	59	60	63	61	73	77	78	90	82	78	89	91	92	93	85	66	46	56	49	54	50	69	0
27	✓	✓	✓	54	55	58	59	65	55	50	72	75	57	67	78	89	95	91	87	85	92	73	74	83	78	81	75	73	0
28	✓	✓		78	81	70	63	61	61	94	60	44	46	57	N 72	97	87	102	106	92	89	67	74	83	78	81	75	73	0
29				70	57	49	45	51	45	47	49	26	Z	75	76	75	159	−4	Z+	Z	Z−	Z	N 71	133	85	68	92		1
30				85	91	104	116	108	N 86	Z+	128	128	Z	Z+	Z+	Z+	Z+	107	121	Z+	Z+	164	Z+	Z+	114	Z+	Z+		2
31				121	Z+	Z+	Z+	124	N100	Z+	Z+	121	Z+	Z+	Z+	Z+	Z+	Z+	149	102	Z+	96	Z+	59	80	79	78		2
MEANS * 19 DAYS				74	77	72	71	68	61	58	60	61	65	72	74	77	80	83	84	82	72	67	74	75	71	66	67	71	
MEANS † 19 DAYS				74	77	72	71	68	61	58	60	61	65	72	74	77	80	83	84	82	72	67	74	75	71	66	67	71	
MEANS ‡ 16 DAYS				69	71	67	69	64	57	53	58	62	64	71	73	75	80	82	86	83	72	68	74	72	69	65	68	70	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 214

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	747.8	15.5	46	25.4	6.0		9.7	S	3	SE	3	E	4	ESE	1		0		0	Dew early
2	745.4	19.5	29	28.6	12.3		9.6	..	0	NNE	4	NNE	4	..	0		0	CiSt	0- 1	Dew early
3	744.9	19.6	32	33.9	7.7		9.6	..	0	N	1	NNE	1	..	0		0		0	
4	745.7	22.2	25	34.9	11.7		9.0	NW	1	NNW	2	NNE	3	ESE	2	CiCu; FrACu	4- 6	CiCu; CiSt; FrACu	4- 6	Slight smell of smoke in evening
5	745.1	20.5	27	31.2	11.4		6.8	NW	2	NNW	2	NNW	10	..	0	CiCu; CiSt	4- 6	CiCu; CiSt	4- 6	Distant thunder and lightning in evening
6	743.5	19.5	75	25.7	13.4		6.4	..	0	WNW	1	WSW	11	SSW	3	ACu; FrCu; Cu	6- 8	ACu; FrCu; CuNb; Nb	7- 8	Dew early; brief shower at 17h; clearing in evening
7	744.6	14.5	92	24.6	10.4	0.01	8.0	S	1	ESE	2	ESE	1	SSW	4	Cu; FrCu	4- 6	Cu; FrCu	4- 6	Fog until 8h5
8	741.8	18.0	67	23.9	9.0		5.5	S	3	SSW	2	SW	8	SW	2	ACu; ASt	4- 6	ACu; ASt	1- 3	Dew early
9	747.5	13.5	57	16.3	11.1		5.6	SSW	3	SSE	11	SSE	14	SSE	4	Cu	9- 4	Cu	3- 1	Dew early
10	753.1	9.8	50	15.7	1.5		9.5	SE	4	E	7	E	12	ESE	3		0		0	Dew early
11	751.6	12.6	43	19.4	1.1		9.5	ESE	3	NE	8	E	7	SE	2		0		0	
12	751.4	13.5	45	21.7	3.3		9.3	..	0	E	1	ENE	7	ESE	4		0		0	
13	750.7	15.9	33	24.4	4.5		9.3	ESE	2	NE	5	ENE	6	..	0	CiSt	10	CiSt	10	
14	750.1	16.4	34	26.4	5.8		8.2	..	0	..	0	NE	3	ENE	1	CiSt; ACu	4- 6	CiSt; ACu	4- 6	
15	746.0	16.6	38	27.5	4.4		7.3	ENE	1	N	2	NNE	4	SSE	1	CiSt; ACu; ASt	4- 6	CiSt; Ci	4- 6	
16	744.6	12.9	49	24.2	9.0		0.1	..	0	..	0	..	0	SSE	2	Ci; CiSt; CiCu	7- 9	Ci; CiSt; CiCu	7- 8	
17	746.4	17.4	45	28.4	10.4		7.0	..	0	NNE	2	NE	4	..	0	CiCu; Ci	4- 6	CiCu; Ci	1- 3	Fires at some distance
18	744.1	17.9	38	29.1	9.0		9.0	..	0	NNW	1	NNW	5	..	0		0		0	Fires in E
19	737.7	16.1	37	25.4	5.2		0.8	NNW	1	NNW	5	W	14	WSW	1	CiCu; ACu; Nb	7- 9	CiCu; ACu; Nb	7- 8	Rain in pm
20	742.5	11.8	89	18.2	5.7	0.30	3.2	SSE	1	SE	1	..	0	..	0	Ci; CiSt	4- 8	Cu; CuNb; Nb	8- 4	Clear in evening
21	744.6	12.3	81	19.7	5.2	0.01	6.3	..	0	..	0	ENE	7	..	0	CiSt	4- 6	CiSt	4- 6	Fog early; clear in evening
22	738.1	13.7	95	17.5	7.1	T	0.0	..	0	N	5	W	15	..	0	Nb	9-10	Nb	9-10	Rain throughout day
23	742.1	14.0	91	19.4	7.8	0.31	5.7	SW	2	..	0	SSE	1	..	0	CiCu; Ci	1- 6	Ci; CiCu	4- 6	Fog 6h–9h
24	744.6	11.3	71	19.6	4.9	T	4.2	..	0	..	0	NE	8	NE	6	CiCu; ACu; Cu	9- 6	CiCu; ACu; Cu	4- 6	
25	736.8	18.7	63	20.9	12.8	T	2.4	NNE	7	NNW	8	SW	11	W	1	ACu; ASt; Cu; FrCu	4- 7	ACu; Cu; CuNb	4- 6	Light rain about midday
26	742.5	14.0	86	19.5	7.4	0.05	5.3	..	0	NW	1	SW	9	..	0	CiSt; ACu; CuNb; Nb	7-10	CuNb; Nb	7-10	Dew, or rain, in early hours; a few showers during day
27	743.7	11.8	93	20.7	3.5		5.2	..	0	..	0	NW	4	WSW	4	ACu; FrCu	1- 8	ACu; FrCu	7- 8	Fog early
28	742.8	14.0	85	20.6	6.9		2.8	..	0	NNW	2	NNW	7	W	5	ACu; FrCu; CuNb	3-10	Nb	10	Fog early; light rain at 12h and in evening
29	738.8	12.7	98	18.7	11.5	0.08	1.0	N	2	NNW	2	NNW	8	WSW	9	Nb	7-10	Nb	7-10	Fog early; heavy showers at intervals in day and evening
30	732.9	12.5	74	14.2	10.2	0.57	2.3	WSW	4	WSW	3	WSW	20	W	8	ACu; Cu; CuNb	7-10	ACu; Cu; CuNb	7-10	Showers at intervals
31	735.7	12.5	74	15.6	8.1	0.12	4.2	WSW	9	WSW	5	WSW	14	W	4	Cu; Nb	7- 9	Cu; Nb	7- 8	Showers at intervals
SUM						1.45														
MEAN	744.1	15.2	60	23.0	7.7		5.9		1.6		2.8		7.2		2.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 215

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		110	113	127	134	145	157	170	194	234	206	175	186	174	205	180	198	205	204	184	156	185	182	209	252	179	0
2	✓	✓	✓	267	278	303	321	327	335	353	358	320	227	191	193	198	202	199	204	197	192	209	}171{	235	279	290	298	256	0
3	✓	✓	✓	314	335	332	340	341	339	356	371	359	338	322	281	242	230	225	216	213	217	208	147	139	155	149	160	264	0
4	✓			185	251	288	317	360	362	377	380	371	366	319	289	256	217	193	198	185	200	192	218	202	208	255	270	269	0
5	✓	✓	✓	262	284	343	359	389	404	400	425	420	393	355	327	297	251	188	207	202	183	162	166	171	178	198	202	282	0
6	✓	✓	✓	206	202	230	230	}216{	162	251	271	252	193	186	177	163	165	173	177	170	186	194	209	204	213	213	224	203	0
7	✓			223	217	217	107	119	171	160	166	183	250	224	207	198	202	208	204	191	198	208	191	174	182	189	180	190	0
8	✓	✓	✓	169	139	132	141	151	171	149	160	176	170	174	168	151	160	(146)	153	159	160	174	174	182	204	202	204	165	0
9	✓	✓	✓	198	193	184	183	184	170	164	148	107	98	[77	71	90	99	71	68	69	80]	86	88	103	116	124	128	121	0
10	✓	✓	✓	133	157	175	204	238	257	276	288	283	265	225	178	157	147	144	134	142	157	163	130	128	168	205	238	191	0
11	✓	✓	✓	269	280	279	284	321	315	338	368	325	280	213	209	184	199	190	188	183	178	218	153	155	176	232	231	240	0
12	✓	✓	✓	264	282	278	279	294	292	319	342	364	289	284	233	218	204	205	206	206	216	226	207	181	219	253	255	255	0
13	✓	✓	✓	253	276	299	313	325	340	353	363	329	268	230	208	217	218	229	237	231	248	239	230	269	283	306	317	274	0
14	✓	✓	✓	366	396	416	424	434	441	454	453	417	323	239	209	202	205	210	205	201	176	231	215	233	250	262	282	302	0
15	✓			297	324	330	354	355	358	376	406	391	369	302	280	264	(215)	214	209	214	214	227	246	263	258	190	207	286	0
16				254	288	297	298	323	352	411	452	423	447	439	417	372	346	309	262	269	265	270	275	282	—	—	—		0
17				—	—	—	—	—	—	—	—	—	—	285	237	219	216	221	223	226	⌈125	61	54	115⌋	182	170	194		0
18	✓			286	319	327	363	368	383	369	369	359	310	272	255	222	216	217	219	207	202	198	210	270	270	248	270	280	0
19				315	376	422	412	405	417	440	446	408	371	}264{	134	103	71	98}	151	148	120	141	139	144	160	169	182		2
20	✓	✓		185	185	204	199	185	198	229	289	288	238	189	160	181	160	163	149	166	170	170	160	160	177	226	273	196	1
21	✓	✓	✓	264	239	209	194	161	168	156	152	281	276	240	214	198	185	173	170	191	164	190	225	233	233	240	254	209	0
22				279	293	310	321	337	353	364	375	360	276	240	248	}176{	(186)	137	—	}102{	157	145	177	178	180	215	223		1
23	✓	✓	✓	230	224	240	227	231	217	253	225	268	239	205	191	190	184	191	184	181	182	180	198	204	238	217	216	213	0
24	✓	✓	✓	225	240	258	269	285	294	272	285	291	279	289	202	194	178	170	185	173	202	194	196	188	188	167	159	222	0
25	✓			146	174	175	176	196	208	214	219	224	}139	140	140}	176	159	146	134	148	151	162	178	197	210	217	213	177	1
26	✓	✓	✓	216	242	275	272	267	268	266	240	242	213	182	160	162	163	160	159	170	169	183	214	235	261	270	302	220	0
27	✓	✓	✓	311	301	301	306	300	315	282	284	350	378	337	282	240	207	190	186	189	163	186	205	193	183	192	202	253	0
28	✓	✓		206	184	231	280	282	275	178	276	435	432	362	206	193	174	168	162	178	162	160	169	159	161	194	211	227	1
29				230	254	298	292	280	364	391	386	}331	162}	238	202	208	(193)	180	—	}157	69	141}	170	166	157	163	152		2
30	✓			162	149	166	145	149	155	171	174	173	}157	102	131	108	127	109	105}	181	176	184	175	180	178	170	171	154	2
31				173	175	181	161	182	—	—	—	169	159	}131	145}	168	163	159	161	166	167	183	180	171	—	160	163		2
MEANS * 25 DAYS				230	239	253	257	265	270	275	288	298	268	231	206	195	187	178	178	182	182	189	185	194	207	217	229	226	
MEANS † 19 DAYS				234	239	253	261	267	269	275	289	302	269	232	203	192	186	178	178	180	179	187	180	187	203	218	232	225	
MEANS ‡ 16 DAYS				247	254	266	272	279	280	290	296	299	264	231	206	194	187	179	180	180	180	190	183	191	209	220	232	230	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 216

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		89	88	103	119	127	134	152	178	234	210	178	181	169	200	196	189	188	189	170	136	152	146	181	220	164	0
2	✓	✓	✓	231	248	265	279	289	318	340	333	289	190	121	159	185	192	182	179	163	161	170	129	223	257	277	292	228	0
3	✓	✓	✓	313	324	327	323	331	339	350	364	350	340	327	291	242	222	209	199	193	203	201	135	122	133	135	144	255	0
4	✓			171	235	269	309	332	360	379	384	380	384	346	301	272	220	172	172	154	157	157	187	176	178	232	237	257	0
5	✓	✓	✓	225	246	328	353	377	402	401	412	413	418	372	337	305	260	194	201	192	161	137	123	119	122	149	170	267	0
6	✓	✓	✓	172	155	181	193	181	129	234	251	244	199	179	172	164	164	156	159	149	166	152	168	168	175	177	180	178	0
7	✓			173	175	159	83	87	139	121	127	173	244	220	203	176	182	181	172	155	164	183	159	143	144	156	143	161	0
8	✓	✓	✓	134	109	107	111	114	128	120	132	154	157	155	158	152	(146)	144	135	130	128	127	127	127	159	157	148	136	0
9	✓	✓	✓	143	134	143	126	144	130	130	126	113	116	106	87	100	94	75	65	73	66	72	68	76	86	92	95	102	0
10	✓	✓	✓	96	107	129	161	193	207	232	269	288	271	230	181	155	144	135	129	141	159	146	107	98	144	168	208	171	0
11	✓	✓	✓	242	262	257	264	297	296	323	365	338	298	311	209	191	203	193	186	177	168	198	135	129	152	203	208	234	0
12	✓	✓	✓	252	240	240	257	280	276	311	336	366	294	277	234	215	200	209	204	199	209	206	178	150	183	218	225	240	0
13	✓	✓	✓	218	229	264	289	298	324	331	337	307	199	178	189	213	229	238	234	227	235	224	197	245	263	287	298	252	0
14	✓	✓	✓	346	379	401	405	417	437	446	440	386	292	203	179	185	192	194	177	177	147	202	193	201	219	218	262	279	0
15	✓			279	302	307	339	338	329	347	387	393	383	299	280	257	215	(186)	211	201	190	211	208	240	231	185	182	271	0
16				233	262	288	269	297	358	428	452	459	451	459	432	373	332	290	225	227	233	255	260	275	—	—	—		0
17				—	—	—	—	—	—	—	—	—	—	272	231	214	218	204	204	196	[108	51	36	74]	154	143	168		0
18	✓			263	291	299	311	353	361	368	361	327	300	262	248	232	227	218	210	193	188	187	189	250	257	238	258	266	0
19				312	382	428	427	428	440	450	448	409	365	276	—	—	—	127	157	164	164	152	99	108	109	113	130		2
20	✓	✓		142	135	141	178	155	155	178	237	254	189	143	142	146	140	128	141	154	141	149	136	143	156	202	254	164	1
21	✓	✓	✓	237	202	165	166	143	148	148	120	257	269	222	202	194	178	168	158	176	159	168	209	215	220	203	229	190	0
22				248	252	279	306	312	344	354	371	348	271	233	244	207	180	—	102	—	—	155	159	148	144	156	140		1
23	✓	✓	✓	159	164	166	143	144	185	199	158	202	204	176	156	150	159	155	148	150	137	151	151	171	196	199	189	167	0
24	✓	✓	✓	193	202	230	232	245	241	246	269	269	256	209	187	172	156	151	156	152	165	161	161	163	159	146	136	194	0
25	✓			113	137	141	143	176	175	180	183	197	134	164	126	179	156	121	120	122	123	123	129	157	169	181	170	151	1
26	✓	✓	✓	178	194	247	237	231	223	236	193	210	191	164	149	162	155	147	149	140	125	141	179	209	220	231	269	191	0
27	✓	✓	✓	179	275	267	255	250	298	253	242	317	364	315	288	232	202	186	181	169	144	147	164	163	149	155	169	224	0
28	✓	✓		163	149	173	252	266	254	161	258	433	442	359	222	188	173	166	159	143	141	134	145	119	133	141	155	204	1
29				188	201	248	256	245	341	367	364	344	255	213	189	188	175	—	—	155	198	158	132	105	100	98	90		2
30	✓			126	116	106	92	142	154	132	101	140	147	143	164	146	132	133	137	152	116	136	154	178	188	180	173	141	2
31				187	185	189	175	137	177	180	132	158	181	120	165	193	197	176	177	180	169	183	152	187	158	177	181		2
MEANS * 25 DAYS				193	204	217	225	236	246	253	263	281	260	226	202	191	182	169	166	163	158	162	155	165	178	188	201	204	
MEANS † 19 DAYS				195	202	218	229	236	243	252	264	285	258	222	196	185	179	170	165	163	158	161	149	158	172	186	203	202	
MEANS ‡ 16 DAYS				207	217	232	237	246	255	269	272	281	254	222	199	189	181	171	166	163	158	163	152	161	177	188	201	207	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 117

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				82	107	93	106	105	106	109	80	N 68	Z+	81	Z+	97	N 81	N 63	N 62	64	74	62	46	74	75	88	95		1
2	✓	✓	✓	102	96	91	103	93	92	79	65	62	63	71	71	72	63	71	61	81	73	70	71	81	82	75	66	77	0
3	✓	✓	✓	68	60	54	74	65	46	46	46	60	60	68	74	58	81	41	74	79	71	61	50	50	52	60	60	61	0
4	✓	✓	✓	57	46	46	50	49	42	36	35	39	40	47	62	60	63	60	63	63	42	37	45	43	56	50	46	49	0
5				46	45	45	41	43	41	36	33	43	55	58	67	67	70	68	64	61	58	61	64	61	68	Z	Z		1
6				Z-	Z-	Z-	N 48	105	144	N 77	N 59	113	95	N 60	86	86	87	85	72	Z+	N 36	64	61	63	60	57	56		2
7	✓			56	66	61	56	63	66	59	57	57	56	60	N 55	67	73	77	75	88	90	N 68	76	85	87	81	74	69	1
8				64	83	79	104	93	N 83	78	113	146	102	105	111	Z+	97	81	Z+	Z	Z+	Z+	N 26	94	103	98	95		1
9	✓	✓	✓	121	123	128	111	104	98	105	100	109	124	110	106	92	111	114	116	107	109	89	81	74	81	75	87	103	0
10	✓	✓	✓	85	66	59	56	50	43	43	40	47	56	71	81	76	73	70	72	71	65	68	66	61	57	65	65	63	0
11	✓	✓	✓	50	48	52	63	48	101	62	77	107	60	70	72	74	70	73	78	73	58	54	50	45	46	46	46	63	0
12	✓	✓	✓	51	45	48	47	46	55	56	65	61	58	61	61	58	63	60	61	60	51	57	57	66	46	57	64	56	0
13				57	46	Z	Z	66	92	97	109	105	121	98	101	93	87	80	90	86	N 78	90	74	73	83	89	92		1
14	✓			94	121	109	97	100	102	119	103	90	79	79	81	73	66	74	72	62	46	35	39	39	46	49	52	76	0
15	✓	✓	✓	66	65	64	68	67	63	60	50	54	57	51	44	47	51	54	50	47	35	36	41	43	51	76	41	53	0
16	✓			58	88	85	91	62	48	39	42	44	42	44	50	56	60	65	65	70	59	48	59	65	61	62	60	59	0
17	✓	✓	✓	50	47	72	88	90	96	92	89	70	75	83	67	72	70	72	71	71	61	60	62	65	67	62	57	71	0
18	✓	✓	✓	70	55	59	60	50	57	45	41	44	46	49	55	56	54	58	61	59	43	40	39	45	48	46	45	51	0
19	✓	✓	✓	43	51	46	47	45	50	48	50	55	60	58	66	70	63	66	70	60	43	43	39	44	52	47	51	53	0
20	✓			56	56	57	63	52	59	52	52	59	60	56	52	66	66	76	81	76	52	51	51	56	67	61	64	60	0
21	✓	✓	✓	67	63	73	81	71	64	64	66	67	60	58	70	72	71	74	75	65	63	63	68	81	89	88	83	71	0
22	✓	✓	✓	85	81	63	83	66	57	56	65	63	51	56	65	72	72	80	77	72	56	47	55	85	81	85	86	69	0
23	✓	✓	✓	89	71	74	67	60	62	61	50	64	67	73	73	79	73	81	78	75	57	49	49	75	87	105	86	71	0
24	✓	✓	✓	88	66	63	72	60	51	49	52	65	72	85	89	101	92	93	85	76	52	55	63	65	52	50	46	68	0
25	✓	✓	✓	46	43	47	46	51	50	63	60	71	75	90	90	95	95	91	85	85	66	61	70	60	59	73	74	69	0
26	✓	✓	✓	64	60	57	55	52	51	51	49	70	73	83	91	86	86	82	81	78	63	55	54	60	52	66	55	66	0
27	✓	✓	✓	66	77	80	74	74	74	67	61	66	66	66	75	89	86	86	85	83	83	91	87	72	71	68	60	75	0
28	✓	✓		59	63	81	82	85	78	N 36	52	N 32	29	32	N 17	N 7	58	63	80	80	94	87	79	85	91	96	98	65	1
29	✓	✓		81	72	85	102	96	102	95	79	N 55	55	50	81	88	98	N 74	N104	N102	114	106	N 48	123	131	153	155	94	1
30	✓			151	121	122	108	116	134	116	120	137	117	106	83	95	98	80	85	86	91	87	75	76	75	80	90	102	0
31																													
MEANS * 25 DAYS				73	70	71	74	69	70	64	63	66	64	67	69	71	74	73	76	75	65	61	59	66	67	71	68	69	
MEANS † 20 DAYS				70	65	67	71	66	67	61	60	63	62	67	70	71	75	73	76	74	65	61	59	66	68	72	69	67	
MEANS ‡ 18 DAYS				70	65	65	69	63	64	60	59	65	65	69	73	74	74	74	75	72	61	58	58	62	63	66	62	66	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⦃ ⦄=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 11a

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1928

DAY.	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	737.8	12.0	89	16.3	9.2	0.07	3.0	W	8	WSW	9	SW	10	W	1	CiCu; Cu; Nb	7-10	Cu; Nb	7-10	Heavy showers at intervals
2	743.1	12.5	77	17.1	6.2	0.12	3.8	WSW	1	..	0	W	6	WSW	2	CiSt; ASt; Cu	3-10	CiSt; ACu; Cu	7-10	
3	745.1	11.0	93	17.8	4.1		3.0	..	0	WNW	2	NW	4	..	0	CiSt; ACu; ASt	7- 8	CiSt; ACu; ASt	7- 8	Fog early
4	746.5	11.1	77	20.3	3.8		9.2	..	0	NNW	1	..	0	..	0	ASt	1- 3	ASt	1- 3	Dew early
5	742.8	12.1	61	20.0	4.1		8.7	..	0	N	4	N	11	N	4		0	CiCu; ACu	1- 6	Dew early; ACu and ASt 7 to 10 in evening
6	736.7	12.0	88	16.2	9.3	0.38	5.0	WNW	2	WSW	4	WSW	9	SW	2	ACu; ASt; Cu; Nb	3-10	ACu; ASt; Cu; Nb	7-10	Rain in early hours and at intervals during day
7	739.9	11.0	90	17.6	6.1	0.04	5.3	NNW	2	WNW	3	WNW	9	NNW	3	ACu; ASt; Cu; Nb	2- 8	ACu; ASt; Cu; Nb	7- 8	Occasional light showers
8	737.8	13.2	90	18.6	8.4	0.05	3.0	NNW	2	NNW	6	W	14	WSW	7	Cu; Nb	7-10	Cu; Nb	7-10	Heavy showers at intervals
9	740.9	15.0	76	18.6	8.6	0.23	6.4	W	2	N	2	..	..	..	..	Cu	4- 6	Cu; CuNb	7- 8	Shower at 13h
10	744.8	11.8	85	19.0	4.8		4.4	..	..	..	..	SW	6	..	0	ASt	1- 3	Cu; StCu	4-10	Dew early, perhaps fog
11	745.8	10.8	91	18.3	3.4		6.8	..	..	..	..	E	2	ENE	1		0	FrCu	0- 1	Fog early
12	742.0	13.5	61	19.9	6.2		0.5	..	0	..	6	N	11	NNE	4	CiSt	10	CiSt	10	Light dew early
13	740.1	14.6	93	18.9	12.4	0.16	2.4	N	8	NNW	2	SW	7	SSE	1	Nb; NbSt	9-10	Nb; NbSt	9-10	Heavy rain at 3h; light rains during day
14	745.4	11.3	95	16.6	7.1	0.04	6.6	SSW	1	S	4	ENE	5	..	0	FrCu	1- 8	FrCu	7- 8	Clear at night
15	745.1	12.7	86	18.6	6.1		7.8	S	1	ENE	1	NE	1	..	0	Cu; FrCu	1- 6	FrCu	4- 6	Dew early
16	743.7	12.7	76	22.6	8.0		4.7	..	..	NNW	1	NW	4	SSW	2	ACu; Cu; FrCu	9- 4	FrCu	4- 6	Dew early
17	746.0	14.3	92	18.6	10.5		6.4	S	1	SE	1	ESE	9	SSE	5	CiSt; CiCu; Cu; FrCu	3- 8	Cu; FrCu	7- 8	Fog until 8h
18	748.1	13.5	69	22.6	6.3		8.9	SE	3	SE	2	NE	2	E	1		0		0	Dew early
19	748.7	14.1	56	22.6	5.3		8.9	N	1	N	4	N	3	..	0		0		0	Dew early; lightning in S in evening
20	750.2	12.5	53	20.8	2.6		9.0	..	0	..	0	ENE	1	SE	2		0		0	Dew early
21	751.5	12.7	51	20.2	4.1		9.0	..	0	..	0	E	7	SE	5		0		0	Dew early
22	751.5	10.8	74	20.0	4.6		9.0	WNW	1	SSE	2	ENE	8	SE	4		0		0	Dew early
23	751.3	12.7	64	18.8	3.5		9.1	ESE	1	NE	1	E	3	SE	4		0		0	Dew early
24	750.9	11.5	62	18.3	5.7		9.0	NE	2	ENE	4	NE	8	E	2	Ci	0- 1		0	Dew early
25	750.9	11.7	59	18.3	3.6		9.0	NNE	3	NE	8	NE	8	E	2		0		0	Dew early
26	750.9	11.5	51	18.3	4.2		7.6	NE	2	NE	6	NE	10	ENE	4	CiSt	4- 8	CiSt	7-10	
27	746.9	12.0	48	17.0	9.8		0.1	NE	7	NE	8	NNE	11	N	2	CiCu; CiSt	10	CiCu; CiSt	10	
28	742.1	14.3	42	14.8	11.2	T	0.0	NNE	8	N	2	N	3	N	5	CuNb	10	CuNb	10	Light rain
29	738.5	11.0	89	18.7	6.3	0.03	3.8	NNW	3	N	6	NW	15	W	7	StCu; Nb	10	StCu; Nb	10	Light rain at intervals
30	739.4	13.7	67	17.3	10.8	0.17	3.4	W	7	WNW	6	W	18	WNW	2	Cu; FrCu; Nb	7-10	Cu; FrCu; Nb	7-10	Occasional light showers
31																				
SUM						1.29														
MEAN	744.8	12.4	74	18.8	6.5		5.8		2.4		3.4		7.1		2.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 210

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			154	152	145	143	145	148	168	148	142	129	157	124	134	111	127	143	145	142	148	141	156	160	157	160	145	1
2	✓	✓	✓	159	171	187	199	209	202	216	241	257	258	216	190	168	156	161	160	166	167	178	181	180	181	200	214	192	0
3	✓	✓	✓	211	244	287	239	255	363	395	417	359	311	274	205	152	161	183	189	191	197	204	211	239	265	261	266	253	0
4	✓	✓	✓	262	304	346	342	343	376	394	409	440	433	396	312	269	257	245	236	228	226	197	204	222	225	240	277	299	0
5				268	284	288	377	340	331	351	372	360	(311)	279	230	222	202	201	—	—	189	189	180	197	150	183	195		1
6				131	122	129	202	180	167	171	188	182	188	172	173	159	157	160	164	165	167	178	188	196	205	226	247		2
7				255	246	248	260	249	239	274	297	317	304	273	246	215	198	190	188	192	202	206	214	208	216	237	250		1
8	✓			259	210	255	215	211	233	242	225	205	197	190	180	151	167	165	151	136	159	145	141	171	170	172	165	188	1
9	✓	✓	✓	159	164	181	179	168	173	181	193	193	178	166	164	156	145	144	142	138	136	144	173	199	200	201	190	169	0
10	✓	✓	✓	189	226	251	280	298	332	349	377	362	340	259	190	182	180	182	179	170	175	177	181	202	212	216	222	239	0
11	✓	✓	✓	261	293	234	217	295	166	234	191	148	246	234	227	208	205	201	207	226	249	236	214	248	278	294	288	233	0
12	✓	✓	✓	332	366	350	362	370	367	336	290	296	298	278	249	250	(239)	237	246	244	258	250	265	268	282	284	279	292	0
13				290	304	221	189	206	191	211	148	158	165	(167)	168	177	168	173	177	172	182	190	202	200	202	190	202		1
14				188	190	214	224	—	—	—	—	228	250	267	267	293	276	274	273	280	275	322	330	330	338	349	319		0
15	✓	✓	✓	290	317	340	346	344	351	344	360	296	322	385	360	348	352	350	343	334	318	273	331	321	309	298	323	331	0
16				229	153	161	215	272	364	380	—	—	387	370	369	328	322	279	247	235	237	261	258	237	239	236	225		0
17	✓	✓	✓	255	275	244	218	212	208	216	(224	274)	244	200	229	286	233	221	215	214	217	215	216	212	216	240	250	228	0
18	✓	✓	✓	244	266	297	301	322	320	351	366	356	348	332	300	293	290	271	264	253	229	261	279	298	305	312	338	300	0
19	✓	✓	✓	341	311	320	329	331	324	329	325	310	288	281	246	230	(220)	212	224	234	232	240	269	273	275	298	314	282	0
20				312	301	303	320	323	327	344	343	350	323	334	332	295	264	261	225	241	253	244	245	235	246	261	265		0
21	✓	✓	✓	287	276	254	276	312	303	276	272	299	339	347	304	273	295	259	268	279	252	254	260	238	222	240	258	277	0
22	✓	✓	✓	258	263	263	236	289	315	306	310	339	366	321	269	258	239	247	264	278	292	302	310	227	239	228	221	277	0
23	✓	✓	✓	234	254	274	301	322	323	312	337	290	327	309	295	266	269	266	261	249	247	252	259	225	227	228	259	274	0
24	✓	✓	✓	258	287	323	327	329	337	344	311	302	291	247	225	216	215	219	232	237	239	240	214	184	269	312	360	272	0
25	✓	✓	✓	377	375	366	371	375	361	335	321	308	273	240	220	211	214	216	221	220	232	222	201	251	286	294	286	282	0
26	✓	✓	✓	288	296	305	323	322	322	320	320	310	286	232	218	211	(214)	221	215	221	222	222	275	260	279	289	298	270	0
27	✓	✓	✓	284	265	258	272	274	278	281	290	274	261	239	218	214	212	220	225	217	218	208	215	244	255	263	272	248	0
28	✓	✓		276	287	258	259	259	265	248	255	266	275	258	226	214	216	218	206	197	195	211	202	208	210	205	200	234	1
29	✓	✓		200	202	207	214	218	215	214	232	228	226	226	214	183	174	165	167	177	179	175	156	163	158	157	157	192	1
30				165	164	168	166	—	—	—	—	—	167	165	160	164	160	156	161	161	173	181	196	201	214	216	216		0
31																													
MEANS * 22 DAYS				254	264	270	270	282	286	290	292	284	283	263	235	219	217	215	216	216	217	216	223	227	237	245	254	249	
MEANS † 20 DAYS				258	272	277	280	292	295	299	302	295	296	272	243	226	224	222	223	224	224	223	231	233	245	253	264	257	
MEANS ‡ 18 DAYS				260	275	282	284	298	301	307	309	301	300	275	246	230	228	225	227	228	228	226	237	238	251	261	273	262	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 220

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			162	169	164	166	164	175	166	178	170	182	182	175	≷155	132	135≶	164	162	146	157	162	164	169	170	162	164	1
2	✓	✓	✓	149	164	177	175	187	181	198	204	234	235	214	202	188	177	179	173	161	162	164	172	166	165	181	200	184	0
3	✓	✓	✓	200	220	276	236	276	333	408	492	311	296	269	226	190	196	202	196	193	188	192	210	223	246	234	244	252	0
4	✓	✓	✓	237	275	289	275	307	354	365	378	405	401	372	306	269	247	220	211	210	207	190	210	213	209	225	254	276	0
5				238	23	254	331	303	297	323	354	327	(291)	280	245	242	(218	207)	—	—	—	—	—	—	—	—	—		1
6																													
7																													
8	✓			210	184	214	169	187	211	222	198	180	181	180	175	163	165	157	139	134	110	141	147	131	131	129	131	166	1
9	✓	✓	✓	126	123	113	121	134	136	139	133	141	147	139	137	129	120	115	110	112	93	107	126	160	170	163	153	131	0
10	✓	✓	✓	152	170	208	261	263	314	302	383	313	270	216	168	160	161	157	144	134	131	133	133	163	180	181	192	204	0
11	✓	✓	✓	223	252	[235	208	251	190	264	220	202	280]	220	205	190	184	175	174	178	199	200	190	214	235	199	249	214	0
12	✓	✓	✓	290	290	321	322	360	329	301	258	266	276	252	232	234	228	(222)	226	218	220	218	220	223	243	239	230	259	0
13				241	253	—	—	—	—	—	—	—	120	(166)	142	142	137	136	137	128	134	120	117	131	151	121	128		1
14				131	126	137	147	149	150	145	180	192	222	241	242	266	244	238	236	243	241	268	262	285	276	290	288		0
15	✓	✓	✓	257	278	295	298	292	307	310	323	254	285	336	319	303	306	298	288	278	275	244	291	293	273	263	282	290	0
16				216	129	134	178	266	343	369	397	394	356	352	340	310	300	257	226	206	194	211	199	180	178	176	175		0
17	✓	✓	✓	182	196	205	212	180	150	157	152	210	208	176	208	211	214	212	218	194	190	176	178	174	174	186	202	190	0
18	✓	✓	✓	198	223	235	252	276	275	301	323	307	302	297	268	259	248	220	206	194	187	206	228	242	244	259	277	251	0
19	✓	✓	✓	291	276	273	286	300	291	300	287	268	248	248	222	208	204	(204)	196	169	180	199	211	223	244	262	272	244	0
20				262	257	252	257	276	277	305	298	277	267	—	—	—	—	—	—	—	194	191	207	212	210	218	226		0
21	✓	✓	✓	211	239	228	232	270	275	255	243	273	299	319	295	255	276	244	255	257	216	195	191	181	169	183	205	240	0
22	✓	✓	✓	213	215	227	213	256	283	264	257	292	343	297	259	253	235	227	236	255	256	250	241	180	187	177	185	242	0
23	✓	✓	✓	192	215	228	266	290	272	276	291	245	302	288	281	244	257	245	234	219	216	218	207	181	170	159	198	237	0
24	✓	✓	✓	198	231	265	279	285	275	298	267	267	257	223	207	191	191	197	205	198	202	209	180	146	243	279	335	234	0
25	✓	✓	✓	338	372	362	380	351	323	291	292	271	244	226	208	197	197	194	198	190	191	192	171	210	251	252	234	256	0
26	✓	✓	✓	231	242	253	282	289	273	262	273	267	262	226	202	189	201	(201)	195	191	198	191	228	224	235	251	242	234	0
27	✓	✓	✓	225	216	207	217	224	228	235	245	242	226	207	191	185	180	182	184	175	170	165	167	186	205	214	231	204	0
28	✓	✓		231	232	218	219	216	223	223	224	240	244	235	217	202	189	183	177	173	162	178	174	172	174	168	163	202	1
29	✓	✓		168	171	170	158	161	148	159	198	209	211	211	192	176	164	161	157	162	153	148	144	125	127	110	112	162	1
30				116	135	137	136	132	126	129	134	137	134	141	144	152	143	146	134	131	137	137	141	148	157	161	154		0
31																													
MEANS * 22 DAYS				213	225	235	238	251	252	259	264	253	259	242	222	207	203	197	195	189	184	185	190	191	202	204	216	220	
MEANS † 20 DAYS				216	230	239	245	258	258	265	272	261	267	249	227	212	209	202	199	193	190	189	194	195	207	209	223	226	
MEANS ‡ 18 DAYS				217	233	244	251	266	266	274	279	265	271	251	230	214	212	205	203	196	193	192	197	200	214	217	232	230	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 221

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		90	94	83	85	98	94	81	63	70	81	82	79	89	{N 74}	85	100	97	100	97	92	80	76	86	74	85	1
2	✓	✓	✓	79	59	61	66	48	52	41	41	49	58	81	85	87	96	95	98	112	95	105	104	76	72	97	109	78	0
3	✓	✓	✓	114	104	77	66	70	62	63	47	68	72	86	88	87	98	93	93	93	96	88	75	67	62	72	75	80	0
4	✓	✓	✓	61	86	90	83	92	102	111	81	90	100	103	100	100	113	125	119	96	75	74	65	63	62	54	58	88	0
5	✓	✓	✓	50	47	51	46	46	45	45	44	57	60	68	90	97	98	106	111	111	121	105	101	91	98	86	94	78	0
6	✓	✓	✓	125	124	144	92	75	85	79	85	93	107	118	111	117	120	118	124	125	119	122	121	133	124	134	118	113	0
7	✓	✓		94	101	122	116	178	114	223	200	132	79	82	86	90	98	106	107	108	113	103	97	97	114	{110	N 96}	115	1
8			{113	135	101	111	109	101	140	92	142	89	57	70	Z+	Z−	Z−	74	61	N 45	70	70	−4	Z−	−19	Z− }			2
9			{ Z−	Z−	N117	Z+	Z−	79	N 46	N 85	Z	Z+	Z+	Z+	140	Z	88	Z }	103	104	103	92	96	95	113	105			2
10				95	68	73	86	101	74	89	105	105	88	91	96	94	{N 77	N 33	97	Z+	113	N 81}	110	122	117	91	121		1
11	✓	✓	✓	103	131	112	91	96	98	90	74	83	80	85	88	94	96	103	101	98	83	72	61	60	65	75	68	88	0
12	✓	✓	✓	64	70	62	72	66	71	56	50	61	70	73	105	114	114	117	111	111	75	70	68	60	61	55	59	76	0
13				52	59	75	63	60	58	61	73	{N 41	Z	N 73	N 65	107	Z }	101	102	104	98	81	88	87	82	87	113		1
14	✓	✓	✓	82	114	106	97	90	86	78	68	98	79	87	94	102	94	83	90	89	82	83	87	83	77	82	98	89	0
15	✓	✓	✓	81	94	85	90	100	91	59	58	58	59	51	49	56	60	56	55	60	50	41	46	41	40	35	41	61	0
16				37	41	44	55	51	88	66	50	33	46	60	49	66	64	67	62	60	{N 0	N 24	−90	−193	Z	Z	Z }		2
17			{	Z	Z	Z+	Z+	Z+	Z+	Z+	132	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	112	N 80	121}		2
18			{	Z	108	N 88	Z+	Z+	Z	Z	Z	Z	Z	Z	Z	Z+	Z	Z+	Z	89	88	Z+	Z	Z	N 45}	78	83		2
19	✓	✓		73	74	72	73	79	85	N 76	74	81	90	86	61	54	78	81	N 54	73	66	73	75	79	71	61	61	73	1
20	✓	✓	✓	57	41	37	41	42	45	39	49	52	51	65	64	52	59	54	78	76	81	86	79	70	72	81	81	60	0
21				78	77	91	91	90	{ Z	Z }	124	139	{ Z+	Z+	Z+	Z+	Z+	Z+ }	93	101	114	95	{N 88	N 67}	93	82	{N 81}		2
22			{109	Z	Z	Z }	118	124	118	95	107	93	98	98	94	100	104	95	83	75	73	88	78	72	67	61			1
23	✓	✓	✓	70	64	66	71	67	59	55	50	58	59	64	67	68	68	73	74	74	55	54	45	40	41	42	43	59	0
24	✓	✓	✓	45	47	47	49	54	55	55	59	61	68	68	70	72	75	74	78	83	62	62	50	55	55	51	52	60	0
25	✓	✓	✓	49	47	55	51	52	49	50	42	58	63	63	66	78	75	77	92	91	66	61	51	58	62	68	60	62	0
26	✓	✓		48	52	58	{N 49	N 46	N 44}	60	55	62	75	90	87	93	98	92	90	96	93	98	95	93	78	59	68	74	1
27	✓	✓	✓	70	68	61	62	62	60	51	60	82	85	87	78	82	90	89	85	83	66	60	73	82	79	78	82	74	0
28	✓	✓		83	86	81	81	81	86	74	66	64	63	57	59	60	66	70	82	81	82	N156	−1	N 46	N 54}	91	92	73	1
29			{ Z	Z− }	73	120	101	95	[118	202	135]	102	85	{N 60	N 55}	79	81	81	82	80	87	74	74	89	91	101			2
30			[113	153	211	251	Z+	258]	153	107	110	128	107	78	88	88	97	95	97	88	81	86	83	90	94	78			0
31	✓	✓	✓	85	92	95	108	122	114	124	101	79	73	85	86	81	68	77	81	71	60	47	59	64	75	77	85	84	0
MEANS * 20 DAYS				76	80	78	74	78	75	76	68	73	74	79	81	84	87	89	91	91	82	83	72	72	72	75	76	79	
MEANS † 20 DAYS				76	80	78	74	78	75	76	68	73	74	79	81	84	87	89	91	91	82	83	72	72	72	75	76	79	
MEANS ‡ 15 DAYS				76	79	77	72	72	72	66	61	70	72	79	83	86	88	89	93	92	79	75	72	70	70	72	75	77	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 222

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	744.3	12.5	88	16.7	8.5	0.01	3.4	WSW	2	WNW	2	SW	6	SSW	2	Cu; FrCu; Nb	6-10	Cu; FrCu; Nb	7-10	Light showers
2	748.4	12.6	81	16.0	7.8	0.01	4.7	..	0	..	0	SSE	2	SE	2	CiSt; Cu; FrCu	2-10	CiSt; Cu; FrCu	7-10	Clearing in evening
3	747.4	9.0	78	17.2	2.9		8.8	..	0	..	0	NW	3	WNW	2		0		0	Light frost early
4	745.1	13.3	84	17.1	7.8	0.03	7.5	WSW	2	SE	3	E	1	..	0	FrCu; Cu	3- 6	FrCu; Cu	1- 3	Rain in early hours or late previous night
5	742.7	11.7	78	20.7	5.1		5.1	NNW	1	N	3	WNW	8	WNW	1	CiCu; ASt; FrCu	1- 3	ASt; ACu	4- 6	Dew early; clearing in evening
6	741.8	13.6	87	22.8	7.0		6.0	NNW	2	N	3	WNW	13	WNW	4	Cu; FrCu	1- 8	Cu; FrCu	7- 8	Heavy fog at 0h
7	741.9	14.0	98	22.6	13.5		4.2	NW	4	N	5	WNW	17	NW	7	Cu; FrCu	7- 8	Cu; FrCu	7- 8	Heavy fog until 10h
8	737.2	13.1	98	16.9	12.4	0.09	0.0	N	2	N	6	W	10	WNW	4	Nb	10	Nb	10	Fog and drizzle in early hours; rain at intervals all day
9	738.1	10.1	96	13.2	10.0	0.93	3.4	SW	3	W	1	SSW	7	WSW	1	CiSt; FrCu; Nb	9-10	FrCu; Nb	7- 8	Rain at intervals from early hours
10	743.2	10.5	86	15.8	3.4	0.13	4.8	..	0	NNW	4	WSW	9	SW	2	Cu; FrCu	4-10	Cu; Nb	7-10	Showers in pm; clear at night
11	749.0	9.8	79	13.9	4.5	0.12	8.8	S	1	..	0	ESE	8	E	1		0		0	Dew early; clear at night
12	749.0	8.6	71	14.9	1.5		8.9	ESE	1	..	0	NNE	10	NNW	3		0		0	Frost early; clear at night
13	739.8	6.6	89	16.7	1.0	T	2.6	NNW	5	NNW	8	WSW	14	WNW	1	Nb	7-10	Nb; Cu	4- 6	Frost early; heavy rain in am
14	743.4	11.6	76	16.6	5.2	0.18	4.0	SSW	2	WNW	1	SSW	11	SSW	2	Nb	7-10	Nb	7- 8	Occasional light showers
15	744.3	8.5	82	13.9	2.5	0.01	2.5	..	0	ESE	1	NE	3	NNW	1	Ci; CiCu; ACu	7-10	ACu; ASt; StCu	7-10	Frost early
16	737.2	9.3	99	16.6	3.9	T	1.1	NNW	2	NNW	2	NNW	14	NNW	18	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7-10	Fog early; raining in pm and evening
17	727.4	9.9	83	13.9	8.5	1.07	4.2	W	16	W	13	W	21	W	17	Cu; Nb	7-10	Cu; Nb	7-10	Heavy rains early and all day
18	729.1	9.5	91	12.9	8.7	0.59	1.8	W	10	WNW	6	W	6	WSW	3	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Rain in early hours and at intervals during day
19	741.0	11.2	89	15.7	6.6	0.28	4.6	W	3	..	0	WSW	8	W	1	StCu; Cu; Nb	1- 8	StCu; Cu; Nb	7- 8	Fog early; few light showers during day; clear in evening
20	743.7	10.6	87	16.3	5.1	0.03	4.0	..	0	NNW	1	NW	6	NNW	2	Ci; ASt; StCu	1- 8	Ci; ASt; StCu	7- 8	Fog early; clearing in evening
21	739.8	11.5	95	16.8	9.0	0.13	3.7	NNW	6	NNW	10	WSW	20	SW	3	Cu; Nb	7-10	Cu; Nb	7-10	Rain in early hours and at intervals all day
22	749.0	10.3	82	15.1	4.8	0.22	9.2	SSE	3	..	0	SSE	3	..	0	FrCu	1- 3	FrCu	1- 3	Dew early; clear at night
23	750.9	9.3	77	16.9	2.6		9.0	..	0	..	0	NNE	2	..	0		0		0	Frost early; clear at night
24	747.7	10.5	64	19.4	3.2		9.1	..	0	NNW	2	NNE	5	..	0	FrCu; CiSt	1- 3	CiSt	1- 3	Frost early; clear in evening
25	744.1	12.7	43	21.1	3.1		8.8	..	0	N	2	NNE	13	N	1	ACu	1- 6	ACu	7- 8	Frost early; overcast in evening
26	741.0	13.3	86	18.8	10.8	0.02	5.5	NNW	3	NW	5	SW	10	SSW	2	CiSt; FrCu; Nb	7-10	Cu; Nb	7- 8	Light rain in am
27	746.6	12.8	73	18.3	6.8		8.9	..	0	..	0	ENE	3	..	0		0		0	Dew early, and perhaps fog
28	744.6	13.5	67	22.9	5.2		6.6	..	0	..	0	NW	7	..	0	FrCu	1- 3	FrCu; CuNb	4- 8	Dew early; thunderstorm at 19h; rain at night
29	745.3	15.2	83	18.4	10.9	0.10	7.1	SSW	3	..	0	S	5	SSE	6	CiSt; Cu; CuNb	4- 8	Cu; FrCu; CuNb	7- 8	Fog early; few showers during day
30	748.3	8.9	98	15.4	6.5	0.03	5.6	S	4	E	4	SE	7	SE	3	Cu; StCu; Nb	10- 4	Cu; StCu	4- 6	Fog early, following a shower; clear in evening
31	749.8	9.5	81	16.8	2.7		9.3	SSE	3	SE	3	ESE	4	SE	4	ASt	0- 1		0	Dew early; clear in evening
SUM						3.97														
MEAN	743.3	11.1	83	17.1	6.2		5.6		2.5		2.7		8.3		3.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		206	202	193	205	202	195	208	242	232	211	196	193	183	184	184	186	188	189	186	195	204	224	221	217	202	1
2	✓	✓	✓	228	268	261	276	321	310	361	369	369	293	218	214	204	198	196	200	205	224	202	183	207	211	221	206	248	0
3	✓	✓	✓	222	234	278	294	284	304	302	342	347	338	281	264	259	(236)	233	233	222	220	207	217	225	247	251	244	262	0
4	✓	✓	✓	255	218	201	200	193	204	199	207	201	190	188	183	181	184	181	214	235	245	235	240	230	242	259	265	215	0
5	✓	✓	✓	299	332	343	394	397	396	410	411	400	387	326	242	207	192	191	182	181	181	190	202	199	193	204	191	277	0
6	✓	✓	✓	135	191	168	281	286	262	315	274	278	265	222	(193	179	174	173	182)	182	187	192	200	184	177	179	182	211	0
7	✓	✓		171	178	193	208	142	141	87	110	134	171	(249)	211	190	180	161	164	158	171	178	188	188	184	171	172	171	1
8	✓			189	190	204	202	{174	183	117	142	152	182	234	218	182	124	156}	181	180	171	170	171	152	122	166	104	169	2
9	✓			100	90	134	139	145	182	188	187	157	184	195	181	181	158	182	145	190	182	190	193	211	236	244	245	177	2
10	✓			158	320	339	326	249	319	268	220	249	257	217	182	177	128	156	170	177	'180	171	164	160	168	191	181	214	1
11	✓	✓	✓	178	154	161	189	181	189	196	233	218	200	193	198	187	189	196	199	196	199	212	212	218	217	211	230	198	0
12	✓	✓	✓	271	280	320	295	318	319	325	340	323	298	239	177	156	158	168	180	178	182	202	214	225	248	260	267	248	0
13	✓			279	304	302	322	332	323	297	268	274	234	214	177	161	149	158	148	149	151	167	171	154	157	157	136	216	1
14	✓	✓	✓	134	130	135	145	164	181	199	251	(220)	190	180	182	189	186	191	189	183	189	200	200	196	214	209	200	186	0
15	✓	✓	✓	204	178	189	191	186	191	230	257	280	290	288	264	247	235	230	233	226	234	236	249	266	288	303	308	242	0
16				315	295	292	302	320	208	253	293	309	301	265	217	192	179	172	180	173	175	180	175	139	122	—	—		2
17				—	—	—	—	—	—	—	—	138	{150	120	108	137	100	(78)	94	118	138	148	131	138}	159	144	159		2
18	✓			135	159	150	170	{160	121	175	167	124	153	156	135	183	131	190	154	191}	202	200	181	174	168	182	177	164	2
19	✓	✓		189	192	201	202	197	204	197	211	214	227	196	184	189	191	188	190	191	189	206	215	216	214	237	241	203	1
20	✓	✓	✓	217	268	307	315	300	314	349	321	347	317	250	216	200	198	196	191	189	180	184	184	198	207	202	196	244	0
21	✓			218	211	199	221	219	{160	154}	180	186	174	171	170	159	145	149	166	160	167	168	170	180	184	174	165	177	2
22	✓			174	{190	161}	182	190	197	208	218	226	220	219	200	188	184	181	(180)	177	199	211	195	208	226	233	268	201	1
23	✓	✓	✓	251	259	264	289	309	323	320	320	320	300	252	226	217	214	209	214	214	188	212	251	269	304	310	318	265	0
24	✓	✓	✓	330	332	330	319	319	315	319	320	314	285	269	251	236	(217)	216	216	211	210	215	229	224	250	290	298	271	0
25	✓	✓	✓	311	325	308	321	325	346	359	360	338	288	277	250	221	201	202	208	195	198	208	227	220	214	201	257	265	0
26	✓	✓		281	290	276	263	266	265	268	268	248	222	189	171	171	168	163	167	171	181	187	191	208	226	246	237	222	1
27	✓	✓	✓	239	247	260	294	310	277	301	289	271	236	201	202	207	191	192	210	201	216	220	205	191	200	217	209	233	0
28	✓	✓		204	202	233	238	245	230	245	273	296	319	318	309	282	238	227	222	217	225	217	200	238	219	201	205	242	1
29	✓			{170	191}	202	182	191	200	[173	116	183]	217	212	199	196	201	195	191	190	191	180	186	189	178	174	168	186	2
30	✓			[157	132	109	103	62	86]	145	181	188	150	191	200	201	189	172	171	170	167	168	160	167	159	168	179	157	0
31	✓	✓	✓	180	173	178	166	156	152	146	191	235	245	202	171	182	181	(178)	195	188	199	211	205	190	172	170	165	185	0
MEANS * 29 DAYS				210	222	228	239	235	238	243	251	253	243	226	206	197	184	187	189	190	194	197	200	203	209	216	215	216	
MEANS † 20 DAYS				225	233	240	254	255	256	267	279	279	264	237	215	204	196	194	199	197	200	205	210	215	223	228	230	229	
MEANS ‡ 15 DAYS				230	239	247	265	270	272	289	299	297	275	239	216	205	197	197	203	200	203	208	215	216	226	232	236	236	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 224

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		145	134	137	142	141	143	151	181	191	184	172	172	156	159	142	141	137	128	130	129	141	155	158	154	151	1
2	✓	✓	✓	155	199	191	191	225	257	294	318	314	266	186	166	154	146	155	160	144	139	130	125	163	160	155	156	190	0
3	✓	✓	✓	173	196	202	216	228	273	257	251	264	275	237	231	227	214	(206)	205	192	171	163	176	194	207	186	194	214	0
4	✓	✓	✓	198	157	146	141	129	133	128	150	159	159	161	160	156	142	129	153	170	187	172	184	186	205	213	223	164	0
5	✓	✓	✓	236	285	329	389	403	405	419	416	380	366	309	232	203	187	177	168	166	147	153	164	165	146	160	145	256	0
6	✓	✓	✓	100	154	149	248	256	253	280	227	234	234	202	(179	171	171	169	165)	158	151	149	139	147	151	143	139	182	0
7	✓	✓		141	159	150	142	99	111	66	83	110	151	(184)	193	178	171	160	154	151	141	143	147	154	150	143	154	143	1
8	✓			151	140	130	131	129	138	85	119	128	157	203	184	180	191	182	151	156	157	143	144	161	166	161	186	153	2
9	✓			183	187	171	155	141	118	140	121	123	132	120	124	140	155	153	86	140	105	109	128	139	161	150	155	139	2
10	✓			159	213	245	247	169	213	205	161	198	223	195	172	160	149	(133	127)	125	117	125	77	88	93	104	96	158	1
11	✓	✓	✓	116	73	85	118	107	107	115	150	144	169	171	176	166	169	175	168	170	159	161	158	180	179	179	176	149	0
12	✓	✓	✓	448	231	261	252	260	261	252	256	255	256	219	147	132	133	140	144	140	145	160	179	210	221	249	263	217	0
13	✓			266	274	267	302	292	280	261	252	260	233	197	192	162	138	149	135	127	116	130	140	149	149	143	124	197	1
14	✓	✓	✓	130	117	108	117	143	160	175	171	175	160	141	149	153	159	162	154	140	146	133	128	134	153	156	134	146	0
15	✓	✓	✓	150	132	134	149	137	145	184	205	241	255	251	235	217	209	194	185	182	189	200	208	232	251	268	264	201	0
16				267	265	245	254	272	173	224	261	299	268	242	203	181	169	160	163	131	171	175	190	198	—	—	—		2
17				—	—	—	—	—	—	—	—	124	132	130	(121	127	(74)	65	104	118	113	111	110	138	139	132	120		2
18	✓			129	126	130	105	121	138	55	87	114	112	101	124	112	149	140	121	149	136	130	99	135	153	142	139	123	2
19	✓	✓		144	159	159	162	152	149	152	137	119	164	162	154	171	162	160	162	147	140	136	149	149	152	163	176	153	1
20	✓	✓	✓	159	206	221	240	244	243	274	263	309	281	233	208	185	182	181	171	171	151	143	149	152	151	153	153	201	0
21	✓			152	177	164	176	173	149	184	157	155	164	166	144	119	96	113	133	127	(121	119	112	120)	119	128	123	141	2
22	✓			113	108	65	45	92	107	109	127	149	157	152	155	156	149	149	(158)	145	151	136	138	150	161	186	193	135	1
23	✓	✓	✓	211	222	211	255	282	273	271	298	270	252	223	200	192	187	180	175	169	155	152	185	217	260	269	270	224	0
24	✓	✓	✓	299	303	307	304	296	287	292	282	266	247	245	233	221	203	(182	181)	167	171	154	180	208	221	230	230	239	0
25	✓	✓	✓	259	270	270	261	290	316	302	331	291	265	249	224	199	181	182	183	176	167	172	182	185	188	171	212	230	0
26	✓	✓		235	246	233	226	227	231	230	236	217	190	149	140	141	142	142	138	139	128	117	111	134	159	158	173	177	1
27	✓	✓	✓	181	180	179	217	221	211	213	213	194	188	180	172	181	171	161	173	167	177	169	171	161	161	169	172	183	0
28	✓	✓		178	175	191	189	198	181	192	207	226	259	280	282	255	218	212	200	199	182	152	189	190	182	157	155	202	1
29	✓			163	162	153	120	117	120	[100	61	105]	149	169	164	161	171	170	167	160	151	126	148	155	139	136	139	148	2
30	✓			[130	97	69	56	25	47]	74	131	160	138	164	180	182	169	156	158	144	135	139	123	120	115	119	131	123	0
31	✓	✓	✓	138	132	130	129	113	94	111	150	197	216	171	156	160	(161)	151	(161)	167	179	181	169	151	133	139	131	151	0
MEANS * 29 DAYS				181	180	179	187	187	191	192	198	205	207	193	181	172	167	162	158	156	150	146	149	161	167	169	172	176	
MEANS † 20 DAYS				190	186	190	204	208	212	218	226	228	227	206	190	181	173	168	167	163	158	154	161	172	179	181	185	189	
MEANS ‡ 15 DAYS				197	190	195	215	222	228	238	245	246	239	212	191	181	174	170	170	165	162	159	166	179	186	189	193	196	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 225

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	77	85	94	109	106	109	105	97	76	65	63	65	67	79	83	85	87	78	68	67	78	91	74	81	83	0
2	✓	✓	✓	108	88	87	101	94	92	78	73	71	63	63	64	66	77	80	79	80	56	50	46	48	47	50	46	71	0
3	✓	✓	✓	40	37	42	46	46	49	49	49	55	60	64	67	71	78	85	91	88	86	74	71	73	59	52	[67]	62	0
4				[61	73	61	62	96	101	102	127	117]	64	72	74	87	81	87	87	120}	Z	Z	Z	N 95	N 61}	120	111		1
5	✓	✓	✓	101	109	134	140	139	149	141	132	111	116	104	80	86	76	88	83	89	74	68	70	65	57	57	58	97	0
6	✓	✓	✓	57	59	72	76	72	78	66	64	78	78	68	75	73	83	83	90	97	92	79	64	64	71	57	47	73	0
7				42	50	55	60	55	55	83	83	81	85	{58	N 0	N 30}	—	—	—	—	—	—	—	—	102	100	98		1
8			{81	127	117	131	Z+}	131	107	94	{87}	86	82	81	82	85	81	88	83	86	79	74	64	62	58	45		1
9	✓	✓		44	52	55	56	62	62	51	58	49	52	43	67	73	61	65	66	74	N 80}	76	85	78	85	88	{N 61}	64	1
10	✓	✓	✓	64	71	86	101	[122	111	70	74]	101	79	51	87	91	85	83	86	86	92	74	77	70	66	[60	50]	81	0
11	✓	✓	✓	[46	44	48	49	58	67	75	60]	57	54	56	63	59	61	68	71	67	67	57	58	48	36	52	50	57	0
12				52	68	83	90	68	79	58	71	81	101	{Z+	Z+}	112	98	92	95	98	97	87	92	95	75	77	76		1
13	✓	✓	✓	[71	58	73	79	87	71	65	62]	73	79	87	79	97	88	83	81	75	60	41	49	51	58	61	58	70	0
14	✓	✓	✓	52	55	60	52	55	57	50	49	56	55	63	79	82	101	100	104	106	98	81	70	71	52	45	[62]	69	0
15	✓	✓		[81	91	119	118	70	90]	66	66	81	98	{N 67	82	N 50}	106	92	86	79	78	81	82}	65}	68	57	91	82	1
16	✓			107	78	101	109	89	88	102	127	{N 101}	127	90	94	96	92	104	106	105	102	96	82	81	80	77	63	96	1
17	✓			44	47	46	[61	58	48	50	64	{N 25}	63	81	81	77	90	97	90	95	N 10}	85	86	67	79	[121	119]	70	1
18			{N 66}	85	92	105	{N 20	N 98	120	Z+	Z+	147	—	Z	Z	Z	83	96}	106	107	106	107	96	92	82	66		2
19	✓			76	74	[71	90	71]	67	64	65	62	60	67	72	70	78	80	85	93	89	83	83	81	75	74	73	75	0
20				77	70	49	48	47	—	—	61	73	63	57	59	70	75	80	64	79	67	71	83	89	77	67	56		0
21	✓	✓	✓	47	55	63	55	50	54	44	56	{34	63	48	44	50	64	61	71	48	58}	62	55	50	54	60	64	55	0
22				70	42	64	{57	N 50	N 66	N 73	N 67}	105	104	108	94	96	95	{Z+	98	104	N 85}	96	90	88	85	91	88		1
23	✓	✓		78	70	64	76	75	64	41	55	56	55	76	72	75	66	71	72	{N 65}	71	77	62	76	68	82	78	69	1
24	✓	✓	✓	91	89	85	81	96	81	72	93	94	97	80	81	73	83	74	81	78	82	78	74	74	67	65	66	81	0
25	✓	✓	✓	65	74	77	75	81	82	81	74	78	78	74	68	70	78	74	70	88	85	82	68	77	80	75	75	76	0
26	✓	✓	✓	66	62	70	74	[94	96	135	81]	63	76	72	72	64	75	95	88	94	94	98	97	94	92	86	86	84	0
27	✓	✓	✓	[49	49	67	59	64	57	40	80]	91	94	78	68	87	71	77	83	90	97	83	71	59	59	73	57	71	0
28				55	75	92	121	121	103	124	{N 35	109	N 104	N 74	100	N 72	N 97	Z+	100	98	90	N 85	N 56}	95	101	97	96		1
29	✓	✓	{N 91}	103	107	128	119	102	74	85	92	94	98	94	{N 67}	74	91	91	85	71	86	71	72	86	79	79	89	1
30	✓	✓	✓	89	77	74	68	57	57	60	64	61	73	89	82	80	81	75	81	81	90	82	75	71	59	75	65	74	0
31	✓	✓		79	85	[97	108	83	74	143	189	123]	91	89	86	81	81	94	100	101	101	93	108	126	124	123	129	104	0
MEANS * 23 DAYS				71	70	76	83	80	78	75	79	73	77	73	75	74	79	83	84	85	79	76	73	71	70	71	71	76	
MEANS † 20 DAYS				70	71	79	83	82	80	75	78	75	76	72	74	73	78	81	83	83	80	74	71	70	69	69	68	76	
MEANS ‡ 15 DAYS				68	67	75	78	81	81	75	74	73	75	71	72	74	79	81	83	84	81	72	67	66	63	63	62	74	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER {}=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 226

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	750.4	11.0	77	18.3	5.0		9.4	SSE	2	SE	4	E	5	SE	5	CiSt	1- 3	CiSt	1- 3	Dew early
2	749.6	11.8	82	20.6	3.3		9.6	SSE	1	..	0	NNE	5	..	0		0		0	Dew early
3	745.1	13.3	49	23.3	5.7		9.5	..	0	NNW	1	WNW	16	..	0	CiSt	1- 3	CiSt	1- 3	Clouding with ACu and StCu in evening
4	742.4	10.5	97	20.7	5.5		6.1	..	0	NNW	5	NW	22	W	5	ACu; Cu	7- 8	ACu; Cu; CuNb	7- 8	Heavy fog early; rain after 18h
5	742.5	12.5	80	14.7	10.4	0.37	2.9	W	9	SW	8	SW	10	..	0	ACu; Cu; Nb	7-10	ACu; Cu; Nb	7- 8	Occasional light showers; clear in evening
6	744.1	12.0	60	16.3	6.0	0.01	5.4	..	0	..	0	N	6	..	0	Cu; StCu	7- 9	Cu; StCu	7- 8	
7	734.3	14.8	75	15.9	4.2	0.02	2.3	NNW	1	NNW	9	WSW	15	W	6	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Showers at intervals
8	742.3	12.8	78	17.9	7.1	0.17	5.6	W	3	NW	2	W	13	..	0	ACu; StCu; CuNb	4- 7	ACu; StCu; CuNb	4- 6	
9	745.2	10.5	88	18.5	4.5	T	1.8	..	0	NW	2	W	11	W	3	ASt; Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Light showers in pm
10	745.0	14.1	91	18.9	7.8	0.03	4.4	NNW	2	NW	2	SW	5	..	0	ACu; StCu; CuNb	4- 9	ACu; StCu; CuNb	4- 6	Fog early
11	745.0	11.9	86	20.2	3.6	0.01	5.9	..	0	NW	1	NW	4	SSW	1	Cu	4- 8	Cu	4- 6	Fog early; clear in evening
12	742.0	15.3	80	17.8	6.6		6.8	WNW	2	WNW	3	SW	13	SW	2	Cu; CuNb	7- 8	Cu; CuNb	4- 6	Dew early; shower in am; clearing in evening
13	748.7	11.8	74	17.2	2.6	0.08	9.8	..	0	..	0	E	2	..	0	CiSt	10- 4	CiSt	3- 1	
14	744.6	11.2	56	22.1	0.3		10.0	..	0	N	3	WNW	11	..	0		0		0	Dew early
15	740.3	15.8	79	18.6	5.3		3.4	N	1	NNW	4	WSW	11	..	0	Cu; StCu; CuNb	3- 8	Cu; StCu; CuNb	7- 8	Fog in early hours; light rain at 20h
16	740.2	14.8	82	18.9	12.1	0.11	6.4	NW	2	WNW	4	W	14	..	0	Cu; StCu; CuNb	3- 6	Cu; StCu; CuNb	4- 6	Rain in am
17	739.4	12.9	93	20.0	6.0	0.04	3.6	..	0	NW	2	WNW	13	..	0	Cu; Nb	7-10	Cu; Nb	7-10	Showers in am and pm
18	736.7	15.5	88	17.6	10.0	0.26	5.7	NNW	4	NNW	8	W	23	NW	2	Cu; Nb	4-10	Cu; Nb	7-10	Rain
19	745.8	11.0	84	15.3	5.5	0.25	0.0	..	0	N	1	W	7	..	0	ACu	7-10	ACu	7-10	
20	747.3	12.4	72	18.7	5.5	T	7.5	..	0	..	0	..	0	SW	2	Ci; CiCu; ACu	7-10	Ci; CiCu; ACu	1- 6	
21	744.6	11.2	95	17.4	6.4	0.02	0.0	..	0	NNW	2	NW	2	..	0	Cu; Nb	10	Cu; Nb	10	Light showers all day
22	739.2	12.3	92	17.6	11.3	0.18	4.1	..	0	NW	3	WSW	19	SW	1	ACu; FrCu; Nb	9-10	Cu; Nb	7- 8	Light showers all day; clearing in evening
23	741.5	11.5	76	16.1	4.3	T	1.8	..	0	N	4	WNW	16	WNW	5	Cu; StCu; Nb	9-10	Cu; StCu; Nb	9-10	Few drops rain in pm
24	742.4	14.7	75	18.8	7.0	0.03	6.2	WNW	3	W	6	WSW	10	WSW	2	ACu; ASt; Cu	1- 6	ACu; ASt; Cu	4- 6	
25	746.1	15.0	57	19.6	12.1		5.2	WNW	1	WNW	1	SSW	3	S	2	ACu; ASt; Cu	9- 4	ACu; ASt; Cu	4- 6	
26	745.1	14.5	70	23.0	5.4		10.0	..	0	E	1	..	0	SSW	6		0		0	Frost early
27	740.8	16.0	61	18.4	7.6		4.1	SW	1	WNW	2	W	9	..	0	Cu; FrCu	1- 3	Cu; FrCu	4- 6	Dew early
28	736.4	12.1	93	14.6	8.3	0.09	1.9	NNW	4	SW	13	SW	18	WSW	4	Cu; Nb	7-10	Cu; Nb	7-10	Rain in early hours and showers during day
29	746.9	10.8	66	14.4	1.5	0.09	5.6	..	0	NW	1	WNW	5	W	1	StCu; Nb	2- 8	Cu; StCu; Nb	7- 8	Occasional showers
30	745.3	12.7	74	18.7	3.1		5.0	N	1	NNW	2	WNW	3	SW	1	ACu; ASt; Cu	1- 6	ACu; ASt; Cu	4- 6	Dew early
31	743.7	14.2	63	20.6	4.2		10.3	..	0	ESE	2	ESE	3	SE	4	CiSt	1- 3	CiSt	1- 3	Dew early
SUM						1.76														
MEAN	743.3	12.9	76	18.4	6.1		5.5		1.2		3.1		9.5		1.7					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 490 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 227

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	162	170	162	164	170	175	181	200	242	265	284	254	240	229	226	216	214	217	214	216	199	169	196	193	207	0
2	✓	✓	✓	183	204	216	207	226	242	251	265	291	291	278	251	230	232	230	229	232	232	241	263	258	261	279	295	245	0
3	✓	✓	✓	325	356	347	345	342	344	344	358	358	305	286	272	240	217	202	211	204	197	196	192	191	210	240	213	271	0
4	✓			208	161	227	283	268	267	251	229	207	273	269	240	178	160	138	123	139	146	226	112	177	161	170	168	199	1
5	✓	✓	✓	180	176	173	160	153	152	157	176	176	171	169	170	180	180	175	173	174	183	193	194	194	218	232	240	181	0
6	✓	✓	✓	251	264	251	242	248	261	262	265	213	219	213	207	204	202	196	182	167	151	168	186	224	224	257	268	222	0
7	✓			276	286	294	294	318	304	258	229	222	205	191	149	175	124	145	146	153	155	163	153	170	176	176	184	206	1
8	✓			192	189	185	183	181	183	190	192	201	197	177	163	171	173	181	174	170	173	182	194	216	231	251	280	193	1
9	✓	✓		292	292	304	304	314	269	337	349	335	302	243	230	205	178	170	173	186	175	171	175	180	186	182	191	239	1
10	✓	✓	✓	208	225	215	207	196	200	194	215	205	186	183	168	173	174	174	174	170	171	181	184	206	223	227	240	196	0
11	✓	✓	✓	242	252	275	286	272	234	210	277	305	297	269	249	233	232	202	200	185	191	196	208	213	229	227	237	238	0
12	✓			240	251	253	277	313	295	346	350	290	216	205	162	166	168	167	170	174	176	186	198	194	206	217	218	227	1
13	✓	✓	✓	245	283	269	258	240	296	297	304	283	245	215	205	170	173	192	205	188	189	232	243	240	233	231	250	237	0
14	✓	✓	✓	276	294	288	325	360	364	366	370	378	364	318	258	205	182	168	156	149	171	185	207	218	235	254	194	262	0
15	✓	✓		199	168	135	159	253	199	294	284	253	185	152	160	163	174	180	181	175	180	191	198	208	230	229	200	198	1
16				196	230	217	215	238	244	219	208	196	171	169	161	163	166	164	164	171	174	189	199	221	227	245	265		1
17				303	313	316	270	286	347	335	297	281	225	194	192	170	171	166	157	164	154	168	176	193	198	133	174		1
18				226	207	201	198	184	191	182	109	167	148	101	119	113	126	123	148	160	174	171	178	184	188	210	229		2
19				238	233	256	197	265	304	298	294	286	272	237	202	204	197	192	188	193	192	208	209	218	213	227	208		0
20	✓			197	213	248	264	262	248	241	254	252	252	242	215	207	205	214	216	213	219	206	217	208	223	217	233	228	0
21	✓	✓	✓	251	255	231	259	281	310	337	319	325	271	232	240	215	205	204	197	188	198	196	194	196	192	197	194	237	0
22	✓			194	202	232	219	190	168	174	178	190	191	170	162	162	166	157	174	178	191	201	204	217	219	225	217	191	1
23	✓	✓		225	246	259	254	264	280	281	331	328	257	225	291	181	164	170	168	168	164	170	174	180	184	185	186	222	1
24	✓	✓	✓	183	186	183	186	192	194	219	219	190	173	176	178	171	171	166	176	175	153	149	160	183	198	208	206	185	0
25	✓	✓	✓	219	219	224	230	223	217	209	207	194	183	183	156	174	178	181	174	167	169	175	190	196	210	215	217	196	0
26	✓	✓	✓	227	233	223	229	211	199	128	199	259	233	213	216	231	232	221	216	224	208	200	194	196	210	211	213	214	0
27	✓	✓	✓	221	227	230	223	243	252	273	258	208	190	186	171	175	180	183	175	167	173	191	210	243	266	271	266	216	0
28	✓			244	204	208	207	208	209	193	161	168	170	169	174	170	164	162	188	188	192	178	175	177	181	185	194	186	1
29	✓	✓		193	206	213	210	218	258	277	283	234	215	198	191	186	192	189	185	174	182	182	186	201	208	221	231	209	1
30	✓	✓	✓	239	261	292	314	342	352	338	318	303	253	209	194	185	183	183	186	173	170	174	185	192	215	219	215	237	0
31	✓	✓		207	209	207	197	248	199	123	137	176	286	218	198	209	214	198	191	182	182	184	170	154	169	182	182	190	0
MEANS * 27 DAYS				225	231	235	240	249	246	249	257	251	235	218	205	193	187	184	184	181	182	190	192	201	210	219	219	216	
MEANS † 20 DAYS				226	236	235	238	250	249	254	267	263	242	222	213	198	195	190	188	183	183	189	196	204	214	223	222	220	
MEANS ‡ 15 DAYS				227	240	239	242	247	253	251	263	262	243	228	213	202	198	194	191	185	185	193	202	210	220	231	229	223	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 228

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	128	123	129	124	128	128	145	161	214	255	263	230	217	204	207	196	188	186	180	175	165	135	155	151	174	0
2	✓	✓	✓	134	165	177	167	187	203	212	235	244	269	258	227	208	196	199	196	180	182	187	218	231	234	241	272	209	0
3	✓	✓	✓	305	334	342	334	333	326	324	334	319	292	272	260	239	220	202	208	193	175	161	160	158	187	217	[165]	252	0
4	✓			[174	141	203	253	228	228	221	197	182]	249	248	223	165	155	148	142	148	≷131	93	190≶	152	145	131	131	178	1
5	✓	✓	✓	127	134	128	125	116	107	110	111	128	134	139	140	145	152	143	141	131	133	128	123	140	166	177	164	135	0
6	✓	✓	✓	170	186	156	158	173	164	169	189	[149]	170	176	176	175	178	178	164	142	135	140	164	190	190	205	247	173	0
7	✓			266	263	258	263	294	272	220	208	203	179	177	≷153≶	164	(149	127)	132	132	132	134	140	139	133	131	123	183	1
8	✓			146	124	128	112	112	118	125	137	≷143≶	165	155	155	153	153	150	152	145	140	132	138	166	180	202	240	149	1
9	✓	✓		264	251	258	248	258	[237	316]	319	305	276	229	205	191	177	154	147	151	153	153	153	155	147	141	154	210	1
10	✓	✓	✓	153	177	167	165	[140	122	149	162]	154	150	162	151	142	150	139	139	132	120	119	127	147	163	[163	204]	150	0
11	✓	✓	✓	[216	212	228	230	216	201	192	263]	263	247	218	219	209	201	194	189	163	155	162	162	[173	188	176]	210	204	0
12	✓			209	219	205	214	227	[234	293]	280	254	182	≷177	153≶	137	142	142	140	135	124	120	121	122	142	155	155	178	1
13	✓	✓	✓	[172	214	199	167	164	217	262	250]	222	206	177	181	140	150	166	177	163	[164	209]	205	218	[194	192]	235	194	0
14	✓	✓	✓	259	267	254	289	273	316	363	357	348	356	313	256	214	(185	165)	152	150	153	162	174	187	209	233	[167]	242	0
15	✓	✓		[162	128	97	126	207	172]	261	247	231	166	148	150	160	142	155	148	141	143	134	139	149	174	185	151	163	1
16				151	183	163	168	191	192	170	168	161	151	—	—	—	—	—	—	—	—	—	—	—	—	190	207		1
17				250	251	282	[218	261	199	279	240]	267	—	—	—	—	—	—	—	139	≷153≶	137	123	135	140	[94	136]		1
18				≷192≶	173	162	153	≷161	158	145	180≶	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		2
19				—	—	—	—	—	—	—	—	—	239	214	189	189	182	166	151	143	136	123	131	136	150	161	148		0
20	✓			158	135	160	166	182	170	148	166	170	202	204	196	199	196	175	190	173	168	146	147	148	150	159	183	170	0
21	✓	✓	✓	192	192	186	227	242	259	295	279	294	243	207	(200)	194	182	(177)	170	183	174	167	175	169	175	169	173	205	0
22	✓			165	188	192	≷177	151	136	135	150≶	149	163	153	146	142	142	137	142	140	139	125	128	141	145	143	139	149	1
23	✓	✓		156	186	195	192	203	231	237	273	283	236	216	183	183	166	162	155	145	150	145	153	142	151	151	146	185	1
24	✓	✓	✓	142	145	141	146	142	154	173	170	155	136	147	158	154	149	(140	145	141)	119	119	111	129	150	164	162	146	0
25	✓	✓	✓	165	168	175	178	163	158	158	161	162	(151	149)	[126]	142	140	141	142	123	122	119	132	136	150	156	161	149	0
26	✓	✓	✓	[146	186]	176	168	[147	142	81	143]	226	215	188	188	208	204	186	179	174	169	151	152	149	155	147	146	168	0
27	✓	✓	✓	153	162	152	136	175	170	214	215	186	164	164	(160	154	150	145	140)	135	132	133	150	195	212	216	226	168	0
28	✓			207	178	163	147	145	165	161	149	132	134	140	142	143	146	(154	168)	151	146	124	135	126	109	108	115	145	1
29	✓	✓		125	[98	97	99	133	142]	218	219	191	156	165	164	162	176	174	162	162	161	140	145	142	152	167	190	156	1
30	✓	✓	✓	185	196	223	256	296	303	282	283	273	239	190	175	168	167	163	161	152	129	123	131	142	[153	146	163]	196	0
31	✓	✓		148	159	[149	136	181	160	79	78	150]	207	196	183	203	196	177	165	150	149	139	124	114	123	131	126	151	0
MEANS * 27 DAYS				179	183	183	185	193	194	205	212	212	205	194	181	174	169	163	161	153	148	142	151	156	163	169	174	177	
MEANS † 20 DAYS				175	184	181	184	194	196	212	222	225	213	199	187	180	174	168	164	155	150	149	154	162	170	177	181	182	
MEANS ‡ 15 DAYS				176	191	189	191	193	198	209	221	222	215	202	190	181	175	170	167	157	150	151	157	169	177	184	190	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 229

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	139	135	147	144	129	121	125	131	100	87	76	83	77	83	78	79	100	92	83	85	80	88	72	66	100	0
2				60	N 31	N 35	89	131	125	Z	Z+	124	Z+	N 79	Z+	Z	Z+	111	N 43	97	98	N 94	123	113	100	120	119		2
3	✓			133	136	129	122	131	95	67	117	109	90	78	76	78	98	77	91	98	107	108	102	102	88	105	92	101	0
4	✓	✓	✓	103	107	117	100	95	93	(96	100	104)	107	101	85	88	79	91	88	95	81	88	94	89	88	102	102	96	0
5	✓	✓	✓	100	96	100	100	94	85	72	73	67	63	72	81	90	81	85	101	93	90	96	95	89	104	95	65	87	0
6	✓	✓		N 5	N 43	N 12	40	50	55	N 31	51	48	73	68	86	50	48	61	54	61	76	64	64	79	79	93	92	58	1
7	✓	✓		107	132	119	[129	142	125	97	122	103	78]	72	70	77	83	100	102	108	104	102	104	98	81	67	77	100	0
8				70	71	91	102	104	102	97	85	77	N 0	Z	Z+	75	77	89	100	110	110	110	111	92	94	87	90		1
9	✓	✓	✓	87	83	87	79	75	100	85	98	85	89	77	82	78	86	92	90	95	89	82	77	78	82	78	82	85	0
10	✓	✓		77	77	77	63	61	58	54	70	71	63	64	71	63	N 56	N 61	N 72	N 83	91	102	98	104	109	119	125	79	1
11	✓	✓		113	112	118	107	107	105	114	142	107	78	N 79	74	87	73	70	77	72	86	80	81	85	86	85	83	93	1
12	✓	✓	✓	91	92	98	91	103	92	95	87	70	72	72	81	75	77	80	94	79	86	77	83	81	79	78	68	83	0
13	✓	✓	✓	67	61	[72	79	88]	66	75	87	85	82	82	83	76	91	85	101	94	103	104	95	92	92	98	89	85	0
14	✓	✓		95	[65	92	97	117	83	74	106	90	104]	103	110	119	113	112	125	114	109	106	93	96	91	96	89	100	0
15	✓	✓	✓	73	78	83	86	68	68	68	70	80	83	80	89	98	93	105	100	92	85	77	102	114	120	109	119	89	0
16	✓	✓		140	140	144	153	147	118	89	105	93	N 82	92	88	82	88	86	95	100	90	90	80	73	73	76	75	100	1
17	✓	✓	✓	73	86	88	77	78	80	77	75	72	67	58	63	58	59	54	68	79	81	76	72	75	80	88	90	74	0
18	✓	✓	✓	72	64	56	48	47	49	51	55	58	76	72	74	71	64	81	83	83	82	74	75	75	74	73	80	68	0
19	✓	✓		93	67	68	70	[86	116	119	103]	90	N 56	N 37	71	75	74	82	72	79	74	70	66	59	73	68	62	76	1
20				63	68	51	58	55	59	51	70	81	Z+	108	Z+	Z	Z	Z+	Z+	174	Z	103	Z+	83	102	Z+	124		2
21	✓	✓		N 81	125	132	134	120	102	111	102	85	94	82	85	78	82	82	81	83	87	79	78	87	88	92	98	94	1
22	✓	✓	✓	100	106	95	119	104	91	80	77	87	89	85	79	94	96	98	109	108	112	92	65	88	105	112	122	96	0
23	✓	✓	✓	123	126	144	114	119	117	109	148	97	86	78	75	78	78	85	73	77	77	106	114	114	106	128	129	104	0
24	✓	✓		133	139	167	134	117	114	109	90	98	91	96	95	98	98	102	91	92	83	75	75	83	77	85	81	101	0
25	✓	✓	✓	[92	91	102	102	90	78	68]	91	94	105	98	92	90	102	109	109	105	109	106	105	100	105	85	77	96	0
26	✓	✓	✓	66	59	[64	58	46	41]	42	56	77	75	71	82	85	92	95	91	88	90	95	90	75	62	70	61	72	0
27				64	67	92	91	94	83	N 42	51	74	85	80	82	N 30	−11	Z−	Z−	Z−	N 29	143	N 93	113	118	108	—		2
28				—	—	—	—	—	—	—	74	71	80	73	70	79	85	89	94	88	96	95	68	74	58	101	119		0
29	✓	✓	✓	103	122	125	134	150	126	122	104	109	91	78	91	93	90	90	95	106	109	101	112	103	104	89	102	106	0
30	✓	✓	✓	104	97	92	107	113	109	108	(92)	86	85	88	86	92	87	83	89	91	78	98	92	91	85	98	101	94	0
31																													
MEANS * 25 DAYS				95	98	101	99	99	91	86	94	87	83	78	82	82	83	86	89	91	91	89	88	88	89	90	89	90	
MEANS † 24 DAYS				93	96	100	99	98	91	86	93	86	82	78	82	82	82	86	89	91	90	88	87	88	89	90	89	89	
MEANS ‡ 15 DAYS				93	94	98	96	93	88	85	90	85	84	79	82	83	84	87	91	92	91	90	90	90	92	92	90	89	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 230

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.3	15.3	44	25.0	8.2		10.3	SE	4	ESE	5	NE	1	W	7	CiSt	1- 3	CiSt	1- 3	
2	733.1	16.2	88	17.9	11.7	0.18	3.4	WNW	1	N	9	NNW	18	WNW	13	Cu; FrCu; Nb	7- 8	Cu; FrCu; Nb	7- 8	Rain
3	740.3	16.4	75	20.7	10.0	0.19	7.4	SW	3	..	0	SW	4	..	0	Cu; FrCu	6- 8	Cu; FrCu	6- 1	
4	747.8	16.0	60	18.6	9.5		6.1	SW	4	SSW	3	SSE	6	S	4	ACu; Cu	1- 6	ACu; Cu	4- 6	Dew early; clear in evening
5	747.4	12.5	52	18.3	5.8		7.6	SSE	2	ENE	6	SE	4	SE	4	CiSt; ASt	1- 3	CiSt; ASt	1- 3	Cloudy in evening; rain at night
6	742.5	11.5	86	16.9	9.1	0.16	2.2	SSE	1	SSE	1	..	0	S	2	ASt; StCu	7- 9	ASt; StCu	7- 8	
7	740.6	14.0	69	19.6	5.2		8.3	SSW	2	ESE	1	W	5	WSW	1	ACu; Cu	1- 6	ACu; Cu	4- 6	Dew early; cloudy in evening
8	738.2	14.3	78	16.7	8.0		4.0	WNW	3	NW	8	WSW	16	W	1	FrCu; Nb	7-10	Cu	4- 6	Rain in am; clear in evening
9	741.8	13.7	65	17.9	6.1	0.13	7.7	..	0	W	6	W	12	WNW	2	Cu	4- 6	Cu	1- 3	
10	741.3	14.8	75	18.5	5.6		1.9	NW	2	NW	7	W	16	WNW	2	StCu; CuNb	7-10	StCu; CuNb	10- 4	Rain in pm; clearing in evening
11	740.6	14.0	92	18.8	9.5	0.04	2.6	WNW	3	WSW	10	WSW	12	W	3	Nb	7-10	Nb	7-10	Light showers
12	744.0	15.9	76	20.6	10.7	0.02	5.3	WSW	4	SW	4	SW	3	SSW	3	Cu; CuNb	4- 7	Cu; CuNb	4- 7	Few drops rain
13	745.7	16.0	68	24.7	6.2	0.01	10.8	..	0	..	0	NNW	1	S	4	CiSt	1- 3		0	Dew early
14	743.5	13.5	81	21.4	6.0		9.3	..	0	SW	3	WSW	5	SW	1	Cu; StCu	7- 9	Cu; StCu	7- 8	Dew early
15	741.9	16.0	63	21.1	5.9		8.3	..	0	N	2	W	9	WSW	4	Cu; FrCu; StCu	4- 6	Cu; FrCu; CuNb	4- 6	Dew early; shower at 20h
16	741.0	14.7	73	17.5	9.2	0.04	4.7	WSW	7	WSW	9	SW	12	..	0	CiSt; Cu; CuNb	7- 8	CiCu; ASt; Cu	4- 6	Rain in am
17	744.0	15.0	63	18.3	12.4	0.02	0.6	WSW	2	WSW	2	SW	6	SW	2	FrCu; StCu; CuNb	7-10	FrCu; StCu; CuNb	7- 8	
18	742.1	15.6	70	19.9	5.3		2.6	..	0	N	1	W	6	W	1	Cu; StCu; CuNb	9-10	Cu; StCu; CuNb	7-10	Dew early; some rain; clearing in evening
19	738.6	14.0	89	19.1	9.8	0.07	6.2	WNW	1	SSW	5	SW	7	SSW	1	ASt; Cu; CuNb	9-10	ASt; Cu; CuNb	7-10	Rain through am; clear in evening; dew at 21h
20	736.1	14.0	83	18.0	6.4	0.06	4.5	..	0	NW	4	W	16	WSW	5	ACu; FrCu; CuNb	7- 8	ACu; FrCu; CuNb	7- 8	Dew early; rain throughout day
21	742.1	12.5	63	15.6	6.8	0.19	5.1	SW	9	SW	10	SW	14	SSW	5	Cu; CuNb	5- 8	Cu; CuNb	7- 8	Rain occasionally
22	748.7	12.0	60	17.2	7.0		7.2	SSE	2	ESE	3	SSE	3	S	4	ACu; ASt; FrCu	10- 4	ACu	1- 3	Clear in evening
23	747.7	16.6	55	24.6	3.8		11.0	..	0	ESE	1	N	2	S	4		0		0	Dew early
24	742.1	17.8	42	22.7	5.3		11.1	..	0	S	1	SW	8	SW	2	CiSt	1- 3	CiSt	1- 3	Dew early
25	742.3	16.5	59	21.1	6.5		6.6	..	0	SSW	3	WSW	7	..	0	FrCu	3- 6	FrCu	4- 6	Dew early, and fog
26	740.0	16.3	60	22.6	5.8		10.8	..	0	WNW	6	WNW	14	..	0	CiSt; ACu; ASt	2- 6	CiSt; ACu; ASt	1- 3	Dew early
27	735.2	17.4	65	21.3	7.0		2.8	NNE	2	NNW	11	NW	34	WSW	2	ACu; CuNb; Nb	10	ACu; CuNb; Nb	10	Rain in pm; clearing in evening
28	741.7	13.6	55	17.7	4.6	0.26	6.6	SW	1	NNE	2	WNW	13	WNW	10	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	
29	739.9	16.4	68	20.2	11.6	0.01	4.7	W	11	SW	10	WSW	11	WSW	2	CiSt; ASt; StCu	7- 8	CiSt; ASt; StCu	7- 8	
30	741.4	17.1	69	20.6	10.6		3.2	WNW	4	W	7	W	12	W	6	ACu; ASt; Cu; FrCu	10	ACu; ASt; Cu; FrCu	10	Light rain in early am
31																				
SUM						1.38														
MEAN	741.7	15.0	68	19.8	7.6		6.1		3.3		4.7		9.2		3.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 231

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	174	184	197	194	229	222	227	230	242	273	295	272	254	263	271	266	250	231	242	235	242	240	259	261	240	0
2	✓			262	229	175	186	183	191	171	175	194	141	135	115	104	126	107	112	141	152	142	147	149	148	148	151	158	2
3				160	163	170	182	181	206	237	215	208	216	218	216	208	204	196	189	181	174	173	171	185	184	171	182		0
4	✓	✓	✓	177	174	171	184	192	196	188	189	174	156	160	174	184	(175)	146	140	147	153	132	156	174	170	154	157	168	0
5	✓	✓	✓	171	197	207	218	239	262	276	288	275	275	249	221	219	210	175	157	163	170	153	139	139	154	166	188	205	0
6	✓	✓		149	163	170	188	202	194	192	217	222	222	213	194	184	193	192	191	185	188	202	193	191	210	182	183	192	1
7	✓	✓		180	182	189	[171	166	170	182	164	163	209]	223	211	192	(173	185	171)	153	155	160	151	176	190	229	241	183	0
8	✓			249	265	229	210	210	208	226	237	209	162	125	134	145	151	156	166	162	161	170	175	190	197	213	214	190	1
9	✓	✓	✓	216	226	226	240	258	219	214	217	201	176	177	170	169	170	173	162	169	171	175	194	198	196	201	216	197	0
10	✓	✓		222	235	248	268	277	282	285	238	197	164	169	171	166	162	157	161	161	159	164	166	157	153	148	156	194	1
11	✓	✓		168	167	164	174	192	185	176	170	176	163	181	182	180	(171)	174	173	167	169	183	188	184	193	192	204	178	1
12	✓	✓	✓	201	194	182	184	183	193	183	192	193	192	189	189	189	186	188	188	186	193	197	197	199	206	208	226	193	0
13	✓	✓	✓	219	205	[188	162	178]	209	183	182	189	199	182	191	194	206	197	202	201	178	161	175	180	183	189	182	189	0
14	✓	✓		182	[184	176	160	154	197	242	214	188	167]	183	169	171	161	167	169	162	164	173	188	190	197	197	219	182	0
15	✓	✓	✓	242	255	252	262	275	293	299	306	269	217	194	189	185	178	171	170	168	174	168	164	168	176	188	194	215	0
16	✓	✓		184	174	168	164	159	171	191	189	168	174	167	157	156	160	156	161	162	160	163	180	198	210	214	217	175	1
17	✓	✓	✓	219	201	197	204	199	190	192	185	190	178	180	183	182	188	178	181	180	183	176	175	193	208	213	215	191	0
18	✓	✓	✓	246	269	290	312	338	332	351	351	297	223	192	185	183	(178)	170	180	174	177	183	189	202	183	194	197	233	0
19	✓	✓		206	218	206	217	[215	192	178	181]	186	176	(209	218	199	206	199	201)	178	180	193	193	202	205	219	245	201	1
20	✓			[244	208]	277	300	322	331	319	296	244	198	168	148	155	151	157	154	159	149	153	153	162	166	153	160	205	2
21	✓	✓		154	157	151	152	160	160	169	171	164	156	163	164	162	164	(161	166)	171	175	177	177	176	189	196	192	168	1
22	✓	✓	✓	194	196	206	199	206	216	216	196	180	160	182	178	161	146	148	140	132	126	141	160	166	145	167	167	172	0
23	✓	✓	✓	171	167	155	175	167	171	[163	128]	206	215	210	213	219	222	226	215	211	198	166	164	181	192	190	188	188	0
24	✓	✓		186	181	176	188	200	185	185	221	199	197	192	190	173	171	160	166	168	171	182	189	196	218	222	239	190	0
25	✓	✓	✓	[208	198	200	221	216	197	237]	242	194	178	177	176	171	162	(153	155)	155	161	167	181	191	197	231	251	192	0
26	✓	✓	✓	271	289	[267	244	277]	319	339	289	206	188	182	170	163	152	155	157	153	157	166	185	191	213	217	242	216	0
27	✓			249	264	245	231	237	230	238	244	200	148	108	[93	75	66	64	77	113	161	167	182	171	159	176	180	170	2
28	✓			190	201	216	214	225	237	262	263	240	176	176	171	170	163	206	162	157	164	169	171	156	157	148	147	189	0
29	✓	✓	✓	152	151	148	148	147	148	155	146	147	157	160	159	168	169	169	166	171	166	170	175	167	171	176	182	161	0
30	✓	✓	✓	191	193	183	171	168	148	152	148	159	152	153	159	155	167	168	168	170	169	154	148	153	159	153	146	162	0
31																													
MEANS * 29 DAYS				203	204	202	205	213	215	220	216	202	186	183	177	173	172	170	168	168	169	171	176	181	186	191	199	190	
MEANS † 24 DAYS				195	198	197	200	208	210	216	211	199	190	191	187	182	181	177	175	172	172	173	178	184	190	196	204	191	
MEANS ‡ 15 DAYS				203	207	205	208	218	221	225	219	208	196	192	189	186	185	179	176	175	174	170	176	183	186	194	201	195	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 232

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	129	131	142	141	177	173	172	185	222	264	279	251	246	242	239	230	207	206	226	216	224	219	209	210	206	0
2	✓			220	224	158	140	123	131	138	181	167	149	141	137	127	122	119	132	135	133	129	129	140	134	129	131	145	2
3				126	121	104	87	119	154	162	137	155	170	—	—	—	—	—	—	150	137	125	129	122	111	112	128		0
4	✓	✓	✓	125	124	123	130	130	130	128	139	142	134	141	149	165	178	(130)	127	128	140	119	130	150	144	124	117	135	0
5	✓	✓	✓	122	150	165	181	185	211	273	254	251	259	235	204	189	185	153	140	146	151	133	121	111	133	148	174	178	0
6	✓	✓		145	152	171	166	173	166	183	197	205	199	196	164	165	170	169	176	171	168	162	157	156	167	147	144	170	1
7	✓	✓		135	125	136	127	107	109	119	118	121	179	193	189	174	150	160	138	129	124	115	120	125	144	174	184	141	0
8	✓			208	216	192	175	158	156	179	203	189	162	153	121	130	137	132	132	128	126	116	111	126	135	156	169	155	1
9	✓	✓	✓	164	169	172	188	199	166	156	170	162	158	165	155	165	156	152	146	151	146	139	140	152	149	161	173	161	0
10	✓	✓		179	194	199	225	228	244	241	218	184	163	160	163	154	159	155	154	149	138	138	132	121	119	117	111	169	1
11	✓	✓		122	130	123	122	139	140	139	141	142	147	157	167	163	163	(155)	148	137	138	142	148	145	152	152	156	144	1
12	✓	✓	✓	148	140	135	134	121	120	117	138	154	157	160	159	166	160	159	158	156	149	145	147	148	158	163	173	149	0
13	✓	✓	✓	165	174	144	125	130	182	155	148	159	156	161	172	183	183	187	176	168	148	125	144	146	148	123	126	155	0
14	✓	✓		125	126	109	111	104	145	193	151	154	138	164	156	151	138	148	148	133	128	112	121	111	123	135	158	137	0
15	✓	✓	✓	189	197	195	196	237	244	250	270	242	199	176	162	162	168	153	145	144	141	137	126	125	130	127	140	177	0
16	✓	✓		140	127	119	117	116	123	139	152	138	149	140	136	141	134	132	128	130	124	110	125	150	158	166	171	136	1
17	✓	✓	✓	177	153	140	150	149	132	144	139	150	152	162	157	159	160	157	153	140	142	136	124	137	150	144	154	148	0
18	✓	✓	✓	189	204	232	255	283	287	289	282	255	197	171	181	174	173	(150)	143	140	143	146	133	150	150	160	146	193	0
19	✓	✓		156	170	167	179	172	150	137	134	142	149	166	174	158	163	158	160	155	142	142	138	150	151	166	190	157	1
20	✓			187	178	253	240	262	277	281	260	215	189	160	136	101	128	125	112	124	128	114	127	128	123	130	124	171	2
21	✓	✓		125	119	111	111	114	116	111	127	132	130	138	140	139	143	(140)	139	141	138	135	136	128	125	125	135	129	1
22	✓	✓	✓	99	107	142	99	89	105	143	162	156	145	164	164	148	130	129	118	106	101	108	131	128	110	125	123	126	0
23	✓	✓	✓	107	100	93	91	91	111	121	91	165	183	195	197	211	216	206	209	203	179	133	135	143	138	122	127	149	0
24	✓	✓		123	117	103	130	136	130	129	159	160	175	171	170	160	154	144	147	140	134	129	128	137	162	166	182	145	0
25	✓	✓	✓	158	123	115	145	140	128	197	186	169	149	154	154	150	146	139	(140)	126	124	122	119	134	135	190	212	148	0
26	✓	✓	✓	245	268	235	195	255	281	315	260	176	174	170	162	162	156	150	141	138	136	128	132	136	155	153	179	188	0
27	✓			181	186	170	178	177	190	210	216	187	128	105	89	81	76	73	144	185	140	110	113	111	105	101	104	140	2
28	✓			113	117	136	140	165	166	164	179	191	151	165	166	162	158	155	145	144	140	142	150	146	144	130	127	150	0
29	✓	✓	✓	129	126	121	122	117	117	116	118	121	128	136	137	147	146	142	135	135	130	136	127	119	125	141	135	129	0
30	✓	✓	✓	145	148	155	125	125	121	125	130	136	128	133	137	136	150	148	146	146	143	130	125	125	133	121	115	134	0
31																													
MEANS * 29 DAYS				153	155	154	153	159	164	175	176	172	165	166	160	158	157	150	149	146	141	133	134	138	142	145	151	154	
MEANS † 24 DAYS				148	149	148	149	155	160	170	170	168	167	170	167	165	163	156	152	147	142	135	136	140	145	148	156	154	
MEANS ‡ 15 DAYS				153	154	154	152	162	167	180	178	177	172	173	169	171	170	160	154	149	145	138	137	142	145	147	154	158	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 233

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓			101	113	125	113	107	119	123	117	127	100	94	82	87	88	100	100	108	104	103	113	116	118	121	114	108	0
2	✓	✓		111	116	[133	160]	113	113	127	103	82	77	83	95	82	87	91	102	108	109	109	[136	149	166	173	166]	116	0
3	✓	✓		[152	132	132	126	143	123	126	148]	93	98	89	98	95	95	107	109	108	101	109	109	123	119	106	105	114	0
4	✓	✓	✓	106	112	108	90	77	[51	51]	78	95	94	90	92	83	91	111	109	114	113	124	124	137	136	148	143	103	0
5	✓	✓		≷169	136	144	166	134≷	113	110	114	123	114	128	109	116	116	118	118	114	107	106	103	94	103	86	111	119	0
6	✓	✓		107	109	108	83	73	128	111	121	109	113	98	≷N 72≷	87	92	97	100	102	95	91	91	92	110	104	100	100	1
7	✓	✓	✓	93	134	134	112	107	80	76	85	77	86	83	77	77	88	81	92	94	94	102	97	92	90	88	82	93	0
8	✓	✓	✓	93	111	100	123	114	108	96	79	81	89	82	78	79	91	94	[120	119	125]	95	90	88	87	86	92	97	0
9	✓	✓	✓	114	134	117	106	109	97	82	77	79	88	87	88	88	93	95	97	106	97	96	[127	105]	88	110	134	101	0
10	✓	✓		139	[149	177	175	149]	128	104	89	79	81	85	72	72	76	74	76	79	82	97	82	132	127	111	118	106	0
11	✓	✓	✓	122	136	153	148	141	129	112	87	89	89	92	91	98	101	96	97	109	100	90	100	85	86	86	92	105	0
12				74≷	Z	Z	Z	Z	125≷	109	103	87	81	86	78	77	87	88	83	86	79	82	114	138	126	127	117		1
13				125	129	112	[Z+	Z+	Z+	Z+	166]	106	90	96	80	80	80	83	93	92	87	88	95	94	103	107	100		0
14	✓	✓	✓	92	117	118	117	114	91	92	101	90	87	103	102	[112	112	125	131	127	122	100]	87	88	91	96	104	105	0
15	✓	✓	✓	117	121	112	107	90	70	78	73	68	66	71	70	73	75	73	77	80	72	68	75	76	83	81	83	82	0
16				106	[83	76	76]	—	—	64	64	73	87	83	86	86	88	80	82	81	78	67	54	56	52	60	59		0
17				71	68	64	59	56	—	—	60	67	57	66	70	76	86	88	96	87	82	89	86	[70	63	48	45]		0
18				—	—	—	—	—	—	—	—	—	≷ Z+	Z+ ≷	—	77	77	86	78	85	90	80	89	86	82	74	76		1
19	✓	✓	✓	89	96	101	94	83	66	66	68	63	68	63	70	[88	105	105	89	42]	48	64	54	46	40	56	55	72	0
20				65	82	91≷	79	86	Z+	131	97	140	104	70	102	79	73	N 13	N 35	100	76	N 0	Z	180	127	Z	Z ≷		2
21				≷ Z+	Z+	Z+	Z+	131≷	140	106	97	≷N 67	N 58≷	87	86	88	89	88	88	91	94	91	87	88	90	86	72		1
22				57	—	—	—	—	—	66	63	66	66	66	72	74	77	73	79	94	88	83	86	86	87	79	66		0
23	✓	✓	✓	57	56	47	43	39	42	56	59	61	63	58	56	58	56	52	61	66	67	65	62	75	86	91	86	61	0
24	✓	✓	✓	79	74	76	75	72	63	61	67	66	62	46	51	63	65	63	70	68	59	66	66	75	81	85	89	68	0
25	✓	✓	✓	97	121	147	131	91	73	76	75	73	75	86	93	89	89	90	89	80	85	98	97	98	113	131	146	98	0
26	✓	✓		127	103	86	80	72	58	59	58	54	61	66	66	73	72	68	70	75	78	80	94	[152	179	164	160]	90	0
27	✓	✓		[157	155	144	131	108	122]	61	55	63	65	68	83	87	89	76	85	75	77	79	80	85	92	104	100	93	0
28	✓	✓	✓	102	104	104	95	97	93	83	83	90	87	83	87	83	88	82	91	94	89	90	98	105	110	104	108	94	0
29	✓	✓	✓	105	109	86	73	63	52	65	78	81	76	83	93	96	94	105	102	108	105	111	103	105	118	82	77	90	0
30	✓	✓	✓	[112	143	164	147	126	98]	122	98	106	102	77	78	76	61	94	85	86	97	102	103	108	127	128	121	107	0
31	✓	✓		122	116	88	≷N 74≷	83	80	55	54	70	80	72	71	78	72	74	80	78	59	71	68	72	83	86	86	78	1
MEANS * 23 DAYS				111	117	118	112	100	91	87	86	83	84	82	81	84	87	90	93	93	91	92	94	100	106	106	107	96	
MEANS † 22 DAYS				112	117	117	112	100	90	85	84	81	83	82	81	84	87	90	93	92	90	92	93	99	105	105	107	96	
MEANS ‡ 14 DAYS				98	112	112	104	94	80	80	79	80	81	79	80	83	86	90	94	92	91	91	92	92	95	98	101	91	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 234

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION, 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.4	17.0	68	21.6	13.2		7.7	W	5	SW	9	SSW	10	SSW	1	Cu; CuNb	6- 1		0	
2	747.0	14.4	55	22.5	4.5		11.4	..	0	SE	8	..	0	SSW	5		0		0	Dew early; hazy all day
3	744.7	15.1	63	24.5	4.5		11.4	S	2	SE	5	SW	1	S	4		0		0	Dew early; hazy
4	741.3	17.1	65	21.8	5.3		6.6	..	0	WSW	5	WSW	10	W	6	Cu; ASt; ACu	7- 8	Cu; ASt; ACu	7- 8	Dew early; rain at night
5	740.3	15.6	55	19.3	8.8	0.04	5.5	SSW	7	SSW	7	SW	10	SW	2	Cu; StCu; FrCu	7- 8	Cu; StCu; FrCu	7- 8	
6	737.7	15.7	54	17.7	10.9		2.3	WSW	6	SW	14	SW	19	SSW	7	Cu; CuNb	4- 8	Cu; CuNb	7- 8	
7	740.3	11.5	61	17.0	7.2		2.1	SSE	2	ESE	1	SW	10	SW	3	CiCu; ACu; ASt; Cu	7- 8	CiCu; ACu; ASt; Cu	7- 8	
8	741.3	12.5	58	16.9	9.1		6.3	SSW	7	SSE	10	S	8	SSW	5	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Occasional light showers
9	745.7	12.6	43	18.7	3.3		11.2	SSE	3	ESE	10	SE	4	S	7		0		0	Small fire nearby at 9h
10	743.8	15.8	45	23.5	4.8		11.7	S	2	SE	4	S	1	S	6	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
11	740.6	16.3	48	21.3	6.3		11.5	S	4	SSE	6	SW	5	..	0	ASt	1- 3	ASt	1- 3	Rain at night
12	739.1	13.7	65	19.4	7.4	0.26	8.0	..	0	SW	10	SSW	7	SW	4	Cu	4- 8	Cu	7- 8	
13	741.9	16.0	72	22.0	9.4		6.8	..	0	..	0	SW	8	SW	4	CiSt; Cu; FrCu	2- 6	CiSt; Cu; FrCu	7- 8	Fog early
14	742.5	17.0	54	23.2	8.7		10.3	..	0	SE	4	S	1	S	6	Cu	8- 4	Cu	3- 1	
15	740.9	19.4	44	26.3	8.2		10.7	S	3	S	3	WSW	5	SSW	5		0		0	
16	742.0	18.5	61	21.9	10.0		9.1	..	0	NW	3	WSW	10	..	0	Cu	8- 4	Cu	3- 1	
17	741.0	18.5	68	24.6	13.2		7.8	WNW	1	W	4	WSW	9	..	0	Cu	7- 8	Cu	4- 6	
18	740.2	16.6	89	22.9	10.5	0.01	7.8	..	0	WSW	11	SW	10	SSW	1	ACu; FrCu; Nb	9-10	ACu; FrCu; CuNb	8- 4	Occasional showers in am
19	739.6	16.6	50	26.4	5.6		11.8	SSE	2	ENE	6	WNW	6	..	0	CiSt	10	CiSt	10	Smoky during day; cloudless in evening
20	731.4	12.5	89	16.4	8.5	0.11	0.8	N	4	WSW	14	NW	14	NW	8	CuNb; Nb	10	CuNb; Nb	10	Rain throughout
21	734.7	13.0	83	17.2	10.6	0.23	6.0	W	16	SSW	16	SSW	15	S	4	ACu; StCu; CuNb	7-10	ACu; StCu; CuNb	7-10	
22	742.4	13.3	59	20.1	4.4		9.8	..	0	ESE	4	WSW	1	SW	3	Cu; FrCu	7- 8	Cu; FrCu	4- 6	Dew early
23	740.4	17.2	51	20.4	4.2		4.8	..	0	W	10	SW	16	SSW	5	Ci; CiSt; ACu; Cu	5- 8	ACu; StCu; CuNb	7-10	Showers in pm
24	743.8	12.5	66	16.2	7.2		1.4	..	0	SSE	9	SSW	9	SSW	4	StCu; CuNb	10	StCu; CuNb	10	
25	744.5	12.6	48	20.4	5.6		12.0	S	4	ESE	14	ESE	7	S	7	CiSt	1- 3	CiSt	1- 3	
26	742.4	15.5	41	24.3	7.5		12.0	SE	4	E	8	ESE	1	S	6		0		0	
27	739.4	23.2	22	29.2	8.1		11.4	S	2	NNE	5	W	2	S	5	Ci; CiSt; CiCu	7- 8	Ci; CiSt; CiCu	7- 8	
28	738.7	18.8	47	25.4	9.0		12.0	S	7	SSE	11	SSW	7	SSW	5	FrCu	4- 6	FrCu	4- 6	
29	738.2	18.5	50	21.7	5.0		7.8	..	0	WSW	8	W	16	W	6	ACu; FrCu; Cu	4- 9	ACu; FrCu; Cu	4- 6	Dew, perhaps fog, early; threatening in eve.; rain at night
30	740.4	16.1	87	21.8	12.1	0.03	6.1	WSW	6	W	8	W	12	W	2	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	Occasional light showers during day and at night
31	741.2	16.9	86	22.6	14.0	0.01	2.5	W	7	W	8	WSW	11	WSW	2	Cu; Nb	7- 9	Cu; Nb	7- 8	Occasional showers
SUM						0.69														
MEAN	741.0	15.8	60	21.5	8.0		8.0	3.0		7.6		7.9		4.0						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				148	141	131	128	133	132	137	130	123	127	—	—	—	—	—	—	151	151	156	161	164	167	173	184		0
2	✓	✓		193	199	190	160	169	164	153	183	(198	211	192	183)	183	188	181	(171	160)	166	171	[156	151	146	142	149]	173	0
3	✓	✓		[159	166	169	163	144	153	151	145]	(183	166	170	144)	147	(160)	159	138	163	164	161	160	171	185	188	192	163	0
4	✓	✓	✓	188	189	204	242	256	296	320	285	184	169	163	157	153	138	134	132	132	126	130	132	128	130	133	166	179	0
5	✓	✓		152	160	163	161	173	193	205	183	171	160	162	170	167	166	168	177	181	181	176	177	181	182	178	182	174	0
6	✓	✓		184	178	175	164	159	162	152	161	160	160	155	154	159	155	153	154	159	159	155	168	171	169	166	170	163	1
7	✓	✓	✓	173	162	169	186	186	211	218	201	192	201	188	192	184	177	174	183	180	177	185	184	194	196	219	211	189	0
8	✓	✓	✓	184	176	162	156	160	164	173	166	167	169	175	180	183	175	159	[121	116	127]	167	178	180	184	192	183	167	0
9	✓	✓	✓	155	139	157	156	167	183	205	222	185	173	175	171	157	(151)	140	144	146	137	130	[88	118]	151	134	125	155	0
10	✓	✓		134	[126	118	133	140]	153	174	206	218	214	217	204	205	205	202	199	178	141	134	110	134	152	176	178	169	0
11	✓	✓	✓	174	163	146	152	159	167	170	175	163	167	164	153	163	167	164	160	160	156	160	159	174	197	209	224	169	0
12	✓			257	≷154	144≷	194	≷130≷	186	185	186	173	171	163	164	156	153	153	164	175	188	174	137	113	126	152	163	165	1
13	✓			157	161	176	[182	66	85	69	118]	162	169	169	175	164	160	159	154	154	155	156	157	159	155	189	185	152	0
14	✓	✓	✓	183	171	175	173	176	185	183	185	185	183	169	142	[118	107	98	92	87	90	127]	166	167	174	175	180	154	0
15	✓	✓	✓	173	169	173	177	194	213	210	199	202	208	176	164	160	161	154	145	153	170	173	169	163	166	170	167	175	0
16	✓			180	175	[162	178]	221	225	232	233	194	174	171	166	156	(147)	146	[112	127	157]	182	194	209	231	246	261	187	0
17	✓			257	270	285	281	235	229	191	170	164	166	168	162	163	159	156	155	160	163	155	164	186	191	190	194	192	0
18	✓			202	[213	200	226	162	148	217]	162	155	151	153	154	155	149	149	153	156	159	153	156	164	183	199	200	172	1
19	✓	✓	✓	191	186	182	191	[188	201	225	234]	206	189	190	178	[138	92	51	113	152]	171	182	204	245	277	285	319	191	0
20	✓			285	251	216	184	160	≷163≷	178	162	141	135	134	140	≷127≷	131	131	≷132	121≷	135	≷130≷	153	152	≷144	119	90≷	155	2
21	✓			≷108	126	132	134≷	151	157	155	157	160	157	160	151	149	149	153	155	164	163	164	169	168	173	176	186	155	1
22	✓			190	202	201	210	226	249	238	218	197	193	190	197	196	190	180	180	171	167	163	176	184	193	199	219	197	0
23	✓	✓	✓	238	249	267	313	[303]	324	256	215	183	168	160	157	160	156	(141)	148	155	160	171	169	163	174	183	184	200	0
24	✓	✓	✓	192	209	217	202	201	206	214	186	169	162	176	174	182	171	162	162	159	173	167	161	161	171	174	174	180	0
25	✓	✓	✓	160	141	135	146	183	202	205	206	191	180	173	156	139	131	126	126	126	134	135	137	137	135	124	125	152	0
26	✓	✓		146	182	229	252	272	273	282	280	277	264	251	221	205	196	188	184	171	184	171	167	[147	102	112	116]	203	0
27	✓	✓		[123	125	140	162	180	217]	294	328	283	240	217	191	182	181	174	176	174	182	186	184	171	164	154	147	191	0
28	✓	✓	✓	152	151	147	161	149	157	156	152	149	149	160	151	152	139	131	135	137	148	154	157	160	162	170	177	152	0
29	✓	✓	✓	171	173	191	205	204	230	227	191	166	157	146	138	139	140	138	138	137	138	140	137	142	151	160	159	164	0
30	✓	✓	✓	[134	133	125	135	137	142]	140	139	131	139	147	153	147	146	(146)	147	148	149	152	149	147	138	147	151	143	0
31	✓	✓		153	151	159	160	157	153	156	151	145	152	151	151	151	147	145	147	151	159	161	148	148	157	156	149	152	1
MEANS * 30 DAYS				178	175	177	185	180	193	198	193	182	177	173	166	161	156	150	150	152	156	159	159	163	169	174	178	171	
MEANS † 22 DAYS				169	168	172	180	184	198	203	200	187	181	176	167	162	157	149	150	151	154	159	157	162	166	170	174	171	
MEANS ‡ 14 DAYS				176	172	175	185	190	206	207	197	177	172	169	162	155	146	137	139	142	147	155	156	163	172	177	182	169	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				119	110	97	96	92	94	99	104	95	104	112	119	125	128	(123	121	117)	119	115	96	99	94	97	113		0
2	✓	✓		119	128	[102	80]	101	108	104	152	187	201	183	155	167	167	160	140	140	137	125	[115	111	103	96	99]	132	0
3	✓	✓		[101	103	102	75	79	84	105	125]	169	149	152	125	129	152	(142)	121	147	141	127	125	128	122	[105	123]	122	0
4	✓	✓	✓	[117	124	132	177	179	249	240]	231	160	153	146	140	133	119	115	108	103	100	93	97	101	103	111	121	140	0
5	✓	✓		≷108	121	115	80	92≶	124	140	136	139	135	136	138	142	144	145	144	140	134	124	123	125	129	137	136	129	0
6	✓	✓		148	130	121	124	115	118	117	124	134	136	142	138	139	134	133	124	129	128	124	129	132	135	129	126	130	1
7	✓	✓	✓	133	114	101	122	118	131	137	146	149	156	168	169	164	162	156	157	150	144	130	130	128	120	141	147	141	0
8	✓	✓	✓	141	125	126	112	122	113	118	138	141	151	168	170	175	174	142	[106	105	108]	140	144	142	145	142	142	137	0
9	✓	✓	✓	118	101	100	108	124	143	173	199	179	174	170	173	163	148	(136)	134	129	121	107	[81	106]	131	112	103	135	0
10	✓	✓		99	[89	86	98	110]	121	149	184	202	197	193	193	190	195	187	186	160	125	112	83	103	118	130	126	143	0
11	✓	✓	✓	125	115	103	102	114	106	138	147	136	138	148	144	146	151	147	145	129	124	122	116	123	133	162	164	132	0
12	✓			215	≷214	93	102	129	100≶	139	136	146	149	144	149	151	148	133	144	154	155	133	98	83	89	107	115	134	1
13	✓			113	112	106	[102	35	42	34	74]	122	142	141	150	151	143	136	132	130	130	124	119	125	124	106	125	113	0
14	✓	✓	✓	138	124	110	112	126	137	135	148	168	167	149	123	[96	82	76	68	65	66	95]	133	140	142	137	128	119	0
15	✓	✓	✓	125	109	118	119	143	162	164	178	188	174	162	166	158	152	145	128	139	149	132	123	124	128	127	123	143	0
16	✓			[103	97	93	118]	161	177	176	204	178	158	169	160	152	145	(141)	[106	114	124]	126	146	160	186	198	208	150	0
17	✓			203	215	236	236	197	193	175	160	156	147	145	150	147	150	144	137	134	132	115	116	139	143	144	150	161	0
18	✓			158	[178	141	187	124	106	174]	150	143	140	147	144	139	130	132	126	125	120	110	107	113	128	150	154	139	1
19	✓	✓	✓	144	130	133	120	[107	140	172	210]	189	172	170	174	[134	77	46	106	146]	161	148	172	202	243	259	287	160	0
20	✓			251	207	174	156	138	≷154≶	143	138	114	124	127	131	133	136	137	133	121	128	126	≷92≶	117	125	≷119	103≶	139	2
21	✓			≷112	122	114	99≶	113	111	118	128	134	142	145	138	136	133	131	134	134	127	126	126	128	113	117	120	125	1
22	✓			137	156	154	172	180	222	184	205	195	177	174	171	175	179	174	161	144	141	143	142	143	139	150	175	166	0
23	✓	✓	✓	201	223	251	316	[274]	294	228	200	172	157	150	147	153	(130)	124	123	126	129	130	132	124	116	108	124	172	0
24	✓	✓	✓	144	146	158	155	155	158	170	165	161	160	167	159	172	163	159	144	139	157	141	132	130	131	139	138	152	0
25	✓	✓	✓	130	112	97	103	140	177	188	200	187	184	185	165	142	128	130	122	118	123	124	111	123	111	100	91	137	0
26	✓	✓		110	144	191	231	246	249	262	268	283	278	261	234	206	189	181	177	163	160	143	141	[121	86	80	85]	187	0
27	✓	✓		[89	93	106	120	136	191]	265	313	271	236	221	188	177	170	174	169	162	163	163	159	151	140	128	127	171	0
28	✓	✓	✓	125	121	122	123	118	129	149	145	140	150	158	150	149	140	126	122	123	131	128	121	123	120	124	121	132	0
29	✓	✓	✓	137	128	136	153	176	199	189	161	145	143	138	134	132	128	121	126	123	120	113	122	114	118	130	138	138	0
30	✓	✓	✓	[105	95	90	91	101	117]	123	128	118	139	148	157	152	(138)	140	133	130	122	121	120	115	110	107	113	121	0
31	✓	✓		120	123	133	140	130	129	140	138	134	136	143	145	143	138	135	131	131	139	139	121	114	120	120	111	131	1
MEANS * 30 DAYS				136	133	128	134	136	149	158	168	165	162	162	156	152	145	138	133	132	131	126	123	126	128	130	134	141	
MEANS † 22 DAYS				126	123	124	130	137	154	164	174	171	168	166	158	153	145	137	132	132	131	126	124	126	127	128	131	141	
MEANS ‡ 14 DAYS				134	126	127	137	142	161	166	171	160	158	159	155	148	135	126	123	123	125	123	124	128	132	136	139	140	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 237

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	104	87	112	132	103	76	90	82	74	64	71	75	63	82	87	89	70	77	62	79	70	90	88	98	84	0
2	✓	✓		87	119	122	118	109	95	92	81	N 74	78	N 63	91	89	89	98	91	N 77	93	100	91	82	90	91	94	92	1
3	✓	✓	✓	103	101	98	92	88	85	78	89	79	76	80	87	100	116	119	118	105	101	100	94	103	101	94	91	96	0
4	✓	✓	✓	94	88	71	73	67	65	76	77	100	111	119	116	117	117	112	134	132	121	120	122	125	107	107	93	103	0
5	✓	✓	✓	94	102	105	93	[126	141]	94	95	97	113	113	117	116	122	122	126	119	108	92	93	92	103	95	100	107	0
6	✓	✓	✓	94	85	94	93	97	107	110	98	106	104	116	110	121	121	114	117	114	117	104	110	104	106	102	95	106	0
7	✓	✓	✓	[75	81	101	94	68	52]	61	91	87	85	77	82	86	89	85	89	88	82	86	92	96	103	108	103	86	0
8	✓	✓	✓	106	106	127	141	134	124	112	104	93	81	87	91	93	97	106	109	105	107	105	123	141	151	135	128	113	0
9	✓	✓	✓	139	132	113	91	65	60	70	71	86	88	87	86	90	97	93	101	109	116	88	80	[94	118	162	122]	98	0
10	✓	✓	✓	86	74	74	74	75	55	59	65	85	85	85	101	106	106	108	109	111	105	106	114	116	114	109	121	93	0
11	✓	✓	✓	113	123	137	109	120	122	122	109	105	90	91	94	97	98	112	[129	143	150	151	147	129	133	140	136]	121	0
12	✓	✓		[152	170	171	164	162	129]	91	101	78	74	76	81	83	88	85	75	76	79	[105	117	125	144	150	144]	113	0
13	✓	✓		[152	174	187	168	163	185	159]	116	94	82	94	88	97	94	104	109	116	119	117	134	136	144	135	140	129	0
14	✓			[179	180	211	203	175	179	187	150]	114	104	101	98	97	107	109	97	97	108	110	120	[123	132	136	171]	137	0
15				[188]	—	—	—	—	—	81	68	60	62	63	65	72	75	88	89	103	[119	118	134	138	142	155	147]		0
16	✓	✓	✓	[143]	[139	110	103	107	103	118	96]	79	78	83	90	94	103	125	121	113	111	95	104	117	[122	142	165]	111	0
17	✓	✓		[169	153	166	195	190	149	158]	117	88	80	86	83	82	85	88	83	81	[87]	[74	63	81	85	89	90]	109	0
18	✓	✓	✓	77	64	63	59	55	54	54	54	48	44	44	48	52	58	55	59	58	61	56	52	50	54	62	66	56	0
19	✓	✓		61	56	59	54	45	41	56	58	54	57	54	60	60	65	58	73	78	71	62	68	66	N 50	N 64	89	61	1
20	✓	✓	✓	87	88	[97	116	112	124	116	123	109	104	91	71]	67	78	82	78	78	77	86	97	102	109	103	94	95	0
21	✓	✓		[109	136	162	162	125	131	105]	73	66	57	56	64	50	49	56	66	54	58	67	65	67	88	101	88	86	0
22	✓	✓	✓	67	51	50	49	48	49	47	46	49	45	47	48	50	54	57	55	57	51	61	78	95	105	104	90	61	0
23	✓	✓	✓	97	94	89	94	97	88	98	86	96	96	90	81	98	100	103	104	94	80	88	97	114	117	122	126	98	0
24	✓			126	125	119	110	100	88	101	105	93	91	83	89	83	90	89	90	90	85	88	98	114	117	134	124	101	0
25				[137	127]	—	—	—	—	75	74	61	67	70	67	73	75	74	73	67	71	82	77	77	87	77	73		0
26	✓	✓		86	94	74	72	63	59	59	56	59	67	72	68	67	73	70	71	67	68	85	91	[119	127	N 134	195]	83	1
27	✓	✓		[184	146	154]	119	96	89	90	71	67	72	70	66	74	64	70	61	67	72	75	87	92	90	87	101	90	0
28	✓	✓	✓	123	139	140	147	125	76	103	95	85	75	76	89	89	92	102	97	98	98	97	107	118	119	122	118	105	0
29	✓	✓		123	120	127	[156	150	142]	93	81	68	68	74	73	79	92	92	86	95	92	109	123	117	112	116	121	105	0
30				119	—	—	98	—	—	—	[75]	—	[92	100	107]	104	114	120	119	117	118	124	[127	140	141]	—	—		0
31																													
MEANS * 27 DAYS				112	112	116	114	106	99	96	89	83	80	81	83	85	90	93	94	92	92	92	98	103	109	112	115	98	
MEANS † 25 DAYS				109	109	112	112	104	96	92	85	81	79	80	82	85	89	92	94	92	92	92	97	102	107	110	112	96	
MEANS ‡ 16 DAYS				100	97	99	98	93	86	88	86	86	84	85	87	90	96	99	102	100	98	94	99	104	110	112	109	96	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 238

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1928

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.2	17.9	77	22.3	13.5	0.04	3.3	WSW	1	WNW	5	W	11	WNW	6	StCu; Nb	7-10	StCu; Nb	7-10	A few showers
2	737.0	18.0	53	19.8	12.5		5.6	W	11	WSW	15	SW	18	SSW	7	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Rain at intervals
3	743.9	16.7	51	22.0	7.3	0.02	9.8	SW	2	S	8	S	5	SSW	4	Cu; FrCu; StCu	8- 4	Cu; FrCu; StCu	1- 3	Clearing at night
4	744.2	19.1	46	27.6	4.9		12.0	..	0	ESE	2	W	4	SSW	2	CiSt	1- 3	CiSt	1- 3	Dew early
5	744.0	18.3	57	25.0	7.9		11.0	..	0	SSW	3	WSW	7	SW	6	CiSt	0- 1		0	Dew early; cloudy with StCu in evening
6	744.0	20.5	50	22.6	11.2		9.5	..	0	SW	12	SW	10	..	0	Cu; FrCu	7- 8	ACu	6- 1	
7	744.6	18.0	57	23.8	5.8		11.7	..	0	S	7	SSW	7	S	4	ACu; FrCu	4- 6	CiCu; CiSt	1- 3	Dew early; StCu clouds forming in evening
8	745.3	19.4	58	30.3	9.5		12.4	S	4	SSE	7	SSE	4	SSE	6	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Dew early
9	742.1	29.3	21	34.9	11.7		11.8	SE	4	NE	13	NNE	6	S	2	CiSt	1- 3	CiSt	1- 3	Smoke in NW
10	737.4	24.8	55	26.5	14.0		13.0	NW	2	WSW	4	SSW	11	S	7	CiSt; CiCu; ASt	1- 3	CiCu	1- 3	
11	743.1	17.9	45	24.4	12.7		11.7	SSE	3	SSE	10	SSW	8	S	8	CiCu; CiSt	1- 3	CiCu; CiSt	1- 3	Hazy
12	743.5	22.0	38	31.6	8.7		12.2	SSE	4	ESE	7	SE	4	S	9	CiSt	1- 3	CiSt	1- 3	Hazy
13	741.0	24.0	45	29.6	12.5		12.2	S	4	SSE	5	SSW	16	S	12	Ci; CiCu; CiSt	3- 6	Ci; CiCu; CiSt	4- 6	
14	744.2	21.0	54	29.6	10.8		12.6	SSE	4	SE	8	S	6	S	9	CiSt	4- 6	CiSt	1- 3	Dew early
15	743.2	25.3	29	34.6	11.2		12.6	S	2	E	7	SW	1	S	8	CiSt	1- 3	CiSt	1- 3	Dew early; burning over Obs'y grounds at 13h.2
16	739.7	24.2	47	31.7	12.7		10.4	S	3	SSE	7	SSW	12	S	7	CiSt; Ci	7- 9	Ci; CiSt	7- 8	
17	742.9	20.9	56	29.8	12.3		12.6	S	6	SE	9	S	6	S	6		0		0	Dew early; slight haze at 9h
18	744.4	21.4	35	33.4	13.2		12.4	ESE	8	E	11	ENE	5	SE	3	CiSt	0- 1		0	
19	741.6	29.4	19	37.7	18.8		8.2	ENE	2	NE	11	NNW	9	S	2	CiCu	1- 3	ACu; ASt	7-10	Cloudy in evening
20	741.9	26.8	42	34.4	17.2		10.8	SSE	6	SE	6	S	11	S	9	ASt; ACu	1- 6	ASt; ACu	1- 3	Hazy in am; clouds clearing in evening
21	743.3	21.5	43	29.2	11.8		12.6	S	4	ESE	9	SSE	6	S	6		0		0	Hazy in am
22	741.6	21.3	39	31.9	13.1		12.6	ESE	7	E	7	SSE	1	S	5		0		0	Fire 300 meters to NW and N
23	740.1	24.5	44	31.7	11.8		12.6	S	2	S	4	SW	8	S	8		0		0	Slightly smoky
24	742.4	21.0	51	28.7	10.9		12.6	S	2	SSE	9	SSW	7	SSW	8		0		0	Dew early; hazy at 9h
25	743.2	21.6	46	29.6	11.5		12.3	S	1	ESE	9	S	4	S	4	CiCu	1- 3	CiCu	1- 3	Dew early
26	742.9	22.5	41	32.4	13.7		12.4	SE	7	ESE	9	SE	2	S	8	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
27	740.6	31.5	21	37.1	13.5		12.6	S	2	ENE	2	SW	3	S	2	CiSt	0- 1		0	Thin haze in am
28	740.3	25.5	30	32.2	13.7		12.2	SSW	2	S	3	SSW	6	S	8	CiSt	1- 6	CiSt	4- 6	
29	740.0	22.9	46	31.7	15.1		12.3	S	6	ESE	12	SSE	1	SSW	13	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	
30	740.1	19.7	67	27.2	14.5		8.9	SSW	8	S	10	SSW	8	S	6	ASt; ACu; Cu	7- 9	ACu; Cu	6- 1	
31																				
SUM						0.06														
MEAN	743.1	22.2	45	29.4	11.9		11.2	3.6		7.7		6.9		6.2						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 239

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	167	155	165	154	168	193	180	185	172	178	182	180	171	162	169	167	161	167	162	169	163	162	162	145	168	0
2	✓	✓		139	150	144	139	134	138	145	149	149	155	150	145	151	145	149	165	168	169	168	169	172	173	177	184	155	1
3	✓	✓	✓	187	194	195	200	194	208	207	179	174	166	161	160	150	124	110	123	133	146	152	158	165	171	183	193	168	0
4	✓	✓	✓	200	209	207	206	209	230	235	216	179	⌈140	155⌋	173	162	163	162	148	144	149	148	157	163	173	185	189	179	0
5	✓	✓	✓	189	184	⌈183	187	124	140	210⌋	195	185	180	171	160	157	152	150	158	156	160	151	149	154	171	179	189	168	0
6	✓	✓	✓	197	229	235	217	187	191	166	158	161	157	146	137	135	133	(134)	150	151	155	149	152	162	167	189	220	170	0
7	✓	✓	✓	⌈243	243	218	209	242	270⌋	278	196	172	172	168	167	172	162	165	166	165	166	154	162	167	169	172	176	191	0
8	✓	✓	✓	173	168	158	160	148	144	151	161	184	197	195	195	187	168	145	132	129	125	146	128	123	127	139	140	155	0
9	✓	✓	✓	145	163	194	252	293	307	288	255	196	176	168	169	161	155	158	151	158	150	150	174	⌈185	123	113	161⌋	185	0
10	✓	✓	✓	210	236	265	259	278	305	315	287	240	197	190	176	165	156	160	157	148	156	157	161	160	163	169	160	203	0
11	✓	✓	✓	160	157	172	157	145	152	148	146	150	152	160	162	158	154	152	⌈125	98	103	112	123	144	152	145	145⌋	145	0
12	✓	✓		⌈138	140	146	143	145	162⌋	206	189	220	247	231	200	171	177	174	173	179	178	⌈148	139	125	119	106	104⌋	165	0
13	✓	✓		⌈104	105	106	112	109	114	120⌋	148	172	187	165	150	140	143	(133)	137	145	135	152	148	135	145	(154	152)	138	0
14				—	—	—	—	—	—	—	—	—	163	174	187	190	178	182	187	168	145	135	134	⌈137	127	119	109⌋		0
15	✓			⌈115	106	108	106	114	138⌋	191	217	229	241	223	213	196	⌈158	155⌋	171	165	148	118	114	118	134	125	132	156	0
16	✓	✓	✓	⌈143	140	135	134	130	125	124	149⌋	169	172	172	160	146	138	132	143	150	155	158	162	158	⌈152	124	122⌋	146	0
17	✓	✓		⌈ 99	96	96	90	89	84	96⌋	134	167	174	187	178	176	165	158	177	179	⌈152	156	140	124	127	112	130⌋	137	0
18	✓	✓	✓	⌈176⌋	218	227	231	228	226	206	203	213	234	234	230	220	206	201	197	196	188	195	198	218	231	224	231	214	0
19	✓	✓		252	265	261	255	257	273	240	215	191	184	182	176	168	172	166	160	173	180	195	203	213	≷211	206≶	191	208	1
20	✓	✓	✓	198	184	⌈158	134	105	102	103	100	95	96	100	132⌋	130	115	(106)	124	134	143	146	138	122	122	119	114	126	0
21	✓	✓		⌈ 95	79	73	83	95	86	100⌋	140	157	180	177	⌈112⌋	160	155	150	160	156	138	105	119	128	114	115	129	125	0
22	✓	✓	✓	155	210	223	224	231	230	234	237	247	246	246	234	215	201	188	182	183	180	171	120	123	120	119	148	194	0
23	✓	✓	✓	165	165	160	146	145	158	146	139	128	125	145	157	148	145	148	152	146	148	154	156	140	(138	141	124)	147	0
24				—	—	—	—	—	—	—	—	—	144	145	148	141	145	140	152	155	158	165	165	156	152	140	120		0
25	✓			⌈124	125	115	108	96	120	189⌋	211	210	198	179	173	166	162	167	166	161	151	145	143	160	156	169	174	157	0
26	✓	✓		162	174	234	234	243	244	243	237	229	204	190	185	176	167	144	130	143	148	150	156	⌈125	117	86	76⌋	175	1
27	✓	✓		⌈ 91	115	129⌋	148	152	144	158	197	198	200	193	185	182	178	(177)	167	151	145	148	143	143	156	161	145	159	0
28	✓	✓	✓	129	128	127	123	132	143	140	134	152	166	160	158	156	158	156	151	150	157	158	150	141	138	139	125	145	0
29	✓	✓		137	124	120	⌈ 86	96	104⌋	127	137	157	162	165	163	158	156	155	148	155	157	143	128	138	140	139	139	139	0
30	✓			135	130	128	125	⌈109	58	62	74	98	98	105	109⌋	118	129	130	135	135	134	135	⌈134	132	128	119	122⌋	116	0
31																													
MEANS * 28 DAYS				158	164	167	165	164	171	179	178	178	178	175	169	164	157	153	154	154	153	151	150	150	150	149	152	162	
MEANS † 25 DAYS				162	169	173	171	171	179	183	179	178	178	176	170	165	158	154	154	154	154	153	152	152	151	150	153	164	
MEANS ‡ 16 DAYS				177	186	189	187	185	195	196	184	176	172	172	172	165	156	152	152	150	153	154	154	156	155	156	161	169	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 240

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	135	139	117	113	129	143	158	165	164	173	178	177	167	159	158	154	149	145	151	153	155	145	147	150	150	0
2	✓	✓		129	130	124	111	108	118	135	127	127	142	144	148	141	135	140	155	150	139	140	136	145	136	136	135	134	1
3	✓	✓	✓	124	125	137	143	135	150	168	157	153	163	156	153	140	114	103	117	125	129	128	129	130	(129)	131	140	137	0
4	✓	✓	✓	138	160	170	165	179	173	196	210	157	[116	126]	146	155	135	151	128	124	129	115	105	120	128	127	143	146	0
5	✓	✓	✓	144	140	[117	101	72	80	130]	153	158	160	159	151	151	154	144	146	140	124	121	116	123	112	117	121	131	0
6	✓	✓	✓	139	175	145	170	165	155	149	140	139	143	132	133	130	(124)	119	130	128	123	123	109	98	112	130	161	136	0
7	✓	✓	✓	[176	194	156	127	166	221]	213	164	146	154	163	162	166	168	164	164	159	150	138	131	126	136	139	146	160	0
8	✓	✓	✓	139	138	120	101	105	100	128	142	169	188	183	179	184	157	133	125	118	111	128	115	101	98	109	110	132	0
9	✓	✓	✓	113	123	152	208	265	273	267	246	184	177	171	169	160	146	153	147	157	128	118	146	[158	94	84	125]	164	0
10	✓	✓	✓	138	208	251	243	251	282	272	251	287	195	177	160	150	142	141	136	132	129	130	185	120	118	127	125	177	0
11	✓	✓	✓	127	124	114	126	133	100	117	125	133	142	155	157	161	158	149	[110	93	95	97	105	121	120	116	115]	124	0
12	✓	✓		[108	98	91	93	101	124]	177	180	219	236	218	188	152	163	165	164	165	169	[138	126	111	103	91	90]	145	0
13	✓	✓		[81	74	77	82	87	79	97]	133	157	169	151	143	133	(136)	128	130	136	135	124	123	114	115	116	110	118	0
14				[82	79	66	72	79	79	78	105]	138	155	165	173	182	176	169	161	156	136	130	120	[124	109	94	77]		0
15	✓			[72	70	71	72	77	103]	170	209	231	235	224	209	194	[157	142]	164	157	[136	118	97	105	114	103	109]	139	0
16	✓	✓	✓	[114	109	114	115	107	103	112	138]	165	167	163	156	144	133	125	133	138	151	153	141	133	[130	100	85]	130	0
17	✓	✓		[81	77	73	66	61	74	79]	120	159	178	179	178	178	154	156	166	168	[147	147	130	114	109	99	111]	125	0
18	✓	✓	✓	[151]	213	219	228	227	216	198	197	226	243	248	247	239	223	213	200	195	186	187	184	202	220	211	221	212	0
19	✓	✓		239	246	229	230	237	253	223	205	193	182	187	164	180	186	171	155	139	161	192	196	193	(199	190)	175	198	1
20	✓	✓	✓	166	159	[140	109	93	90	92	86	88	85	97	129]	134	(118)	100	123	135	134	132	116	109	106	105	101	114	0
21	✓	✓		[85	61	59	68	83	73	90]	138	154	184	186	[111]	167	167	151	153	156	134	98	116	123	105	95	110	119	0
22	✓	✓	✓	137	209	216	217	228	223	228	231	245	249	247	233	217	200	185	175	184	182	173	118	112	101	103	125	189	0
23	✓	✓	✓	120	135	129	113	115	137	130	123	118	110	128	147	138	138	139	137	132	136	133	127	113	109	110	107	126	0
24				105	106	107	103	106	110	115	109	120	137	137	151	149	152	146	155	151	154	146	137	126	148	110	121		0
25	✓			[82	60	60	55	65	80	173]	213	217	205	181	161	170	162	167	172	165	146	134	145	149	141	156	145	144	0
26	✓	✓		133	143	202	220	230	237	246	242	237	216	206	193	191	169	148	129	130	148	136	137	[110	103	72	56]	168	1
27	✓	✓		[72	83	76]	108	101	120	135	169	179	181	180	185	182	(182)	169	162	145	135	136	127	118	128	133	126	139	0
28	✓	✓	✓	105	100	90	88	98	117	107	125	155	153	155	145	149	156	146	144	141	136	144	132	128	123	116	110	127	0
29	✓	✓		113	101	98	[71	83	77]	115	134	155	163	156	150	144	135	136	138	141	144	127	112	117	131	127	117	124	0
30	✓			109	104	104	86	[82	44	81	66	93	88	94	97]	108	115	114	115	115	119	121	[98	101	103	88	88]	97	0
31																													
MEANS * 28 DAYS				125	133	130	130	135	141	156	164	169	171	169	164	162	154	147	145	143	139	135	128	127	124	121	123	143	
MEANS † 28 DAYS				129	139	137	136	142	148	159	164	167	171	170	165	162	155	147	145	143	139	136	130	128	124	121	124	146	
MEANS ‡ 28 DAYS				137	153	145	148	153	160	168	166	163	164	165	165	162	153	145	142	139	137	136	128	126	124	123	129	147	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ‡=DISTURBED BY BAD WEATHER

TABLE 241

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[158	153	186	190	218	147]	94	66	(66)	67	65	68	75	80	92	92	98	97	110	117	121	[143	175	242]	122	0
2	✓	✓		[296	290	238	188	128]	101	90	79	74	68	74	79	70	96	95	93	92	97	[107	118	195	216	200	183]	136	0
3	✓	✓		[174	166	178	156	142	132	133	121]	87	80	77	75	76	73	72	75	78	85	92	98	[109	140	132	118]	111	0
4	✓	✓	✓	[140	155	92]	62	55	48	46	47	45	43	45	49	55	57	67	67	72	79	97	114	89	97	95	91	75	0
5				68	74	65	68	65	55	52	56	56	56	64	77	87	100	98	117	Z+	Z	Z	Z	141	128	114	106		1
6				105	118	86	67	100	113	Z	Z-	Z	Z	74	Z	Z	Z	Z	Z	Z	Z	88	85	106	106	110	95		1
7	✓	✓	✓	98	92	82	78	68	64	66	71	73	81	103	75	66	89	81	100	97	126	108	128	141	142	139	[177]	98	0
8				[Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+	Z+]	131	109	98	101	107	106	113	112	124	117	119	135	132	126	122		0
9				122	[68	87]	—	—	—	[92]	65	60	61	66	75	97	80	79	93	95	91	105	108	106	107	109	129		0
10				134	[155	146	140	119	Z+	Z+]	138	95	77	82	92	98	100	108	120	126	132	[147	167	Z+	Z+	Z+	Z+]		0
11				[188	Z+	Z+	Z	-27}	87	87	88	103	91	103	100	107	109	122	120	105	78	122	97	98	106	94	79		1
12	✓	✓		66	57	63	57	[35	[136]	108]	80	83	75	86	80	87	89	92	94	91	93	95	90	95	98	102	93	85	0
13				100	106	[122	131	156	157	132	98]	70	72	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
14				—	—	—	—	—	—	—	—	—	—	—	—	73	79	88	87	86	80	79	81	67	65	62	63		—
15				60	61	55	45	45	41	42	59	60	66	67	76	75	77	74	81	68	52	39}	33	Z	Z	66}	57		1
16	✓			63	67	68	64	55	54	66	121	149	(105	82]	87	100	111	95	97	113	105	98	91	102	102	85	98	91	0
17	✓	✓	✓	95	98	111	92	81	66	75	89	87	89	81	78	85	87	93	95	96	98	98	105	108	107	103	86	92	0
18	✓			93	85	73	66	61	63	66	74	85	85	105	89	105	114	110	114	105	101	118	113	108	102	100	104	93	0
19	✓	✓		88	102	104	74}	44 N	41}	72	95	88	79	77	76	96	103	106	103	95	93	93	104	93	89	90	82	9[illegible]	1
20	✓	✓	✓	80	76	79	69	58	56	80	90	80	75	82	86	79	95	83	93	[103]	70	71	72	90	98	78	77	80	0
21	✓	✓		97	108 N	77 N	15	193 N	58}	122	123	95	60	68	80	89	98	105	111	105	111	117	120	113	108	105	102	99	1
22	✓	✓	✓	109	112	93	79	60	49	63	66	78	85	91	89	105	107	113	119	118	110	120	124	133	124	122	133	100	0
23	✓	✓	✓	141	141	146	142	122	94	79	78	67	67	77	85	100	105	107	104	118	129	121	124	128	141	148	[153	113	0
24	✓	✓	✓	[141	140	146	165	135	111]	80	76	78	91	103	108	100	116	117	121	102	106	107	114	145	150	147	146	118	0
25	✓	✓		134	151	[200	187	225	286	203]	102	97	89	80	82	93	92	104	108	111	113	120	123	119	128	142	147	136	0
26				150	—	—	—	—	—	75	95	91	92	92	94	88	87	93	94	[101	127	108	89	114	140	141	140		0
27	✓	✓		[159	180	183	190	205	166	156]	108	89	76	75	81	98	98	101	87	[108	101	105	123	134	139	137	140	127	0
28	✓	✓		[135	143	167	186	169	128]	89	79	79	76	68	70	78	73	75	82	85	[108	114	118	134	151	164	184	118	0
29				[166	143]	104	120	101	87	73	72	65	65	60	61	60	64	60	64	60	62	77	[256	262	156}	Z }	271		1
30				[171	173	146}	96	98	85}	70	61	52	57	62	83}	Z-	N 77	Z	Z	Z	Z	Z	219	64	92	89	Z }		2
31				112}	Z	Z	Z	77}	80	95	92	86	73	54	67	98	83	109	104	100	91	107	135	126	136	139	[136		1
MEANS * 19 DAYS				126	129	127	114	114	101	94	87	83	77	80	80	86	94	95	98	99	101	105	111	119	126	126	131	104	
MEANS † 18 DAYS				132	135	134	121	121	106	97	85	79	75	78	79	84	91	94	96	98	101	105	112	121	129	130	135	106	
MEANS ‡ 7 DAYS				115	116	107	98	83	70	70	73	72	76	83	81	84	94	94	100	101	103	103	112	118	122	119	123	97	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER }=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER, 1928.

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL	DIR.	VEL	DIR.	VEL	DIR.	VEL	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.1	23.0	42	32.2	13.8		12.5	S	3	ESE	10	SSE	5	S	11	Ci; CiSt; CiCu	1-3	Ci; CiSt; CiCu	1-3	
2	737.0	25.9	35	33.6	16.4		12.4	S	6	ESE	8	SSW	17	SSW	14	ASt; Cu	0-1		0	Slightly hazy
3	740.1	23.6	54	33.2	14.7		12.6	S	7	SSE	10	S	8	SSW	10		0	ACu	0-1	Dew early; storm in NE in evening; hazy during day
4	740.0	26.3	38	35.4	17.8		11.4	SSE	6	ESE	11	SE	9	NNE	5	CiSt; CiCu; ASt	4-6	CiSt; CiCu; ASt; ACu	4-6	Lightning in N in evening
5	739.3	29.3	21	36.1	19.7		10.1	ESE	2	ENE	12	S	1	SE	10	CiSt; ASt; ACu	1-6	CiSt; ACu; CuNb	4-6	Heavy thunderstorm at 18h; clearing at 20h
6	738.5	18.5	93	27.3	17.7	1.49	2.1	ENE	1	SSE	7	SSW	9	ENE	5	ACu; CuNb; Nb	9-10	CuNb; Nb	10	Heavy thunderstorm in am; clearing in evening
7	736.9	25.8	54	32.9	16.5	0.38	12.6	SE	2	NE	1	SSW	2	SSW	3	CiSt	1-3	ACu	4-6	
8	736.3	23.5	57	27.3	16.3	T	12.5	S	3	S	2	SSW	11	SSW	7		0		0	Fog early; thick haze in am
9	736.6	25.4	38	34.6	14.2		13.1	SSE	11	E	6	S	1	S	9		0		0	Slightly hazy
10	735.5	25.8	50	35.9	16.2		12.5	ESE	7	SSW	1	WNW	8	SSW	4	CiSt; CiCu	1-3	CiSt; CiCu	4-8	
11	736.6	20.3	60	26.7	16.2		7.1	WSW	1	W	9	W	8	W	6	Cu; FrCu; StCu	7-8	Cu; FrCu; StCu	7-8	Dew early
12	739.2	20.7	59	27.9	12.0	T	11.4	..	0	SSE	9	S	9	S	12	Cu	7-8	Cu; ACu	6-1	Fog early
13	740.8	23.2	40	30.4	14.1		13.2	SSE	15	ESE	13	SE	8	S	9	ACu	1-3		0	
14	742.5	22.0	40	29.7	15.3		12.9	ESE	15	ESE	13	E	11	SE	2		0		0	
15	739.2	29.5	30	36.6	16.4		10.3	ESE	4	NE	14	NE	2	W	7	Cu; CuNb	1-5	Cu; Nb	4-8	Rain at 20h
16	733.4	26.3	56	27.1	19.3	T	10.7	E	2	W	6	SW	11	SSW	11	CiCu; ASt	5-8	CuNb; Nb	7-8	Rain in evening
17	737.7	16.7	43	20.7	10.5	0.02	8.3	SSW	9	SW	9	SW	11	SW	2	CiSt; Cu; FrCu	6-8	CiSt; Cu; FrCu	7-8	Clearing in evening
18	739.8	18.0	41	24.6	5.5		11.6	..	0	NE	1	WSW	7	WSW	1	ACu; ASt	7-8	ACu; ASt	4-6	
19	737.1	18.5	62	24.0	10.4	T	4.9	W	1	W	6	SSW	10	SW	2	CuNb	7-10	CuNb	4-6	Mist at 6h
20	734.2	20.8	46	23.3	11.1		5.6	..	0	W	14	W	18	WNW	7	FrCu	7-9	CuNb; FrCu	7-8	Few drops rain at 15h5 and 19h5
21	734.4	18.0	69	21.8	14.0	0.31	6.2	W	5	SW	9	SW	8	SSW	6	CuNb	7-9	CuNb	7-8	Raining 3h-6h
22	739.2	19.8	49	24.7	9.5	T	12.6	NE	1	SE	5	SSW	2	S	11	ACu	4-8	ACu	1-3	
23	738.3	22.0	43	31.4	12.3		13.1	S	7	SE	8	SE	3	S	9	ACu	1-5	ACu	1-3	
24	738.8	25.5	41	34.2	14.6		13.2	S	1	ENE	3	ESE	1	S	8		0		0	Hazy
25	736.5	24.3	58	34.3	15.3		12.8	SSE	5	S	4	SW	9	S	8		0		0	
26	737.7	22.0	55	31.1	14.5		12.3	S	8	SE	5	SSE	5	S	8		0		0	
27	738.9	24.3	44	35.0	14.0		13.1	S	6	SE	5	S	2	S	10		0		0	
28	738.8	25.8	43	37.5	14.9		13.1	S	5	ESE	10	S	4	S	7		0		0	Hazy
29	736.7	28.9	32	40.7	19.0		12.8	ESE	8	E	10	S	2	SSE	6		0		0	Lightning in late pm
30	734.1	35.2	29	42.0	20.8		7.8	..	0	E	12	WNW	15	..	0	ACu; ASt; CuNb	2-10	ACu; StCu; CuNb	10	Thunderstorm in pm
31	736.5	24.0	84	28.3	21.8	0.20	8.1	NNW	3	SSW	6	SSW	9	S	8	ASt; FrCu; Cu; Nb	9-10	CiCu; ASt; FrCu	7-8	
SUM						2.40														
MEAN	737.8	23.6	48	31.0	15.0		10.7		4.7		7.7		7.2		7.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.68 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 213

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[110	103	91	86	90	118]	171	203	216	216	216	207	201	194	185	179	160	155	150	148	154	[139	110	83]	154	0
2	✓	✓		[74	79	90	124	183]	213	226	237	250	264	269	251	233	204	198	194	189	185	[171	140	93	76	83	84]	171	0
3	✓	✓		[102	84	76	86	94	93	93	106]	119	132	144	151	158	168	166	161	133	128	123	133	[123	95	108	113]	120	0
4	✓	✓	✓	[96	90	117]	161	204	241	243	243	240	240	233	215	191	174	(158)	156	146	145	151	165	172	184	198	203	182	0
5				217	214	230	243	242	263	264	258	249	229	203	191	176	162	154	133	129	118	—	215	195	173	185	189		1
6				200	188	206	208	198	174	152	69	90	195	182	145	128	47	150	157	89	133	183	194	201	208	206	208		1
7	✓	✓	✓	208	209	224	240	248	251	248	231	211	189	177	168	168	161	158	146	158	171	176	176	169	150	160	143	189	0
8				[109	96	88	85	75	70	66	81	96]	112	128	137	144	139	134	141	141	148	152	151	143	139	141	140		0
9	✓			133	129	[110	114	118	115	148]	191	202	207	197	195	184	176	167	165	155	138	141	154	163	156	155	144	157	0
10	✓			143	[135	140	128	(230	81)	96]	145	179	206	201	190	171	160	151	134	125	113	[108	91	74	73	(69	73]	134	0
11				—	—	—	—	—	—	—	—	—	128	129	137	140	141	(143	146)	[88	118	137]	176	176	176	188	196		1
12	✓	✓		208	235	241	240	[279	202	189]	180	155	145	135	140	139	128	125	124	134	148	158	157	161	139	132	185	167	0
13	✓			128	115	[99	93	90	89	109	151]	(193)	184	163	158	156	155	156	140	130	120	110	118	119	[103	94	91]	128	—
14	✓			[84	106]	165	177	182	177	162	189	203	208	208	196	188	176	167	156	145	152	160	163	190	213	230	255	177	—
15	✓			267	275	302	330	346	364	368	254	195	177	178	178	172	165	167	162	161	156	176	172	110	108	198	218	217	1
16				207	195	198	216	242	260	242	—	—	122	128	124	112	115	125	129	130	132	133	122	134	135	127	138		0
17	✓	✓	✓	132	134	135	141	157	180	185	163	155	152	155	148	135	141	138	133	148	149	152	154	157	172	184	208	154	0
18				218	220	231	248	244	246	239	208	177	162	165	155	148	(146)	151	145	149	148	146	155	165	176	183	201		0
19	✓	✓		224	222	206	261	280	258	283	156	152	154	140	141	146	148	143	150	144	143	131	132	163	180	202	227	182	1
20	✓	✓	✓	239	256	272	293	317	304	218	165	154	141	139	132	129	134	134	130	[115]	149	150	154	158	165	174	179	183	0
21	✓	✓		165	163	146	115	128	115	115	127	132	129	134	137	137	135	132	130	130	129	135	141	149	152	171	207	140	1
22	✓	✓	✓	218	216	229	244	250	252	256	209	191	166	160	158	150	138	124	119	113	120	117	118	123	144	161	156	173	0
23	✓	✓	✓	155	148	139	141	158	177	200	215	213	202	191	178	171	154	143	137	130	134	141	131	158	161	158	152	165	0
24	✓	✓	✓	158	145	144	144	155	185	249	243	240	226	204	178	173	(169)	157	138	134	160	163	155	157	134	143	149	169	0
25	✓	✓		161	150	[99	94	114	109	132]	169	176	185	198	201	189	183	168	156	151	151	141	156	165	161	151	145	154	0
26	✓			143	130	122	128	128	129	149	176	189	191	180	189	197	195	188	183	[151	120	108	124	135	139	140	132	153	0
27	✓	✓		[118	110	108	90	91	88	109]	152	176	206	205	196	187	189	193	189	[165	151	145	155	158	135	135	140	148	0
28	✓	✓		[137	134	114	108	106	140]	183	190	190	196	208	215	202	195	189	168	168	[118	117	124	125	120	124	117]	154	0
29	✓			[117	149]	194	163	173	185	223	226	229	223	216	225	221	209	204	198	198	189	168	[49	44	89	40]	85]	167	1
30	✓			[83	90	102]	128	133	150]	213	209	197	178	174	161	135	150	140	47	91	161	123	198	211	191	177	85]	146	2
31				152	108]	—	—	—	—	—	—	—	140	114	104	189	132	(124)	189	103	130	143	144	141	132	128	[108]		1
MEANS * 24 DAYS				149	150	152	159	177	177	188	189	190	188	184	179	172	167	160	149	144	145	143	143	141	141	146	146	162	
MEANS † 18 DAYS				156	155	152	160	176	185	190	187	186	184	182	176	169	163	157	150	145	146	146	147	146	144	150	152	163	
MEANS ‡ 7 DAYS				171	171	180	195	213	231	228	210	201	188	180	168	160	153	143	136	135	147	150	153	153	159	168	170	174	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES. †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT. ‡=SELECTED DAYS.

( )=INTERPOLATED. [ ]=APPROXIMATE. [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION. ‡=DISTURBED BY BAD WEATHER.

TABLE 244

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1928

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[87	83	65	62	62	89]	156	204	216	219	220	213	201	192	181	168	155	142	142	132	139	[120	89	67]	142	0
2	✓	✓		[49	52	68	85	142]	173	201	227	247	267	266	240	233	203	192	190	187	181	[156	120	73	61	65	68]	156	0
3	✓	✓		[71	69	61	73	74	78	83	97]	116	125	135	147	152	164	163	154	127	121	113	116	[106	78	(88)	92]	108	0
4	✓	✓	✓	[72	69	100]	132	191	228	246	256	270	268	263	239	216	(186)	166	153	148	147	140	143	152	156	163	160	178	0
5				159	158	185	210	229	261	272	260	257	246	207	188	175	147	135	127	} 99	75	—	176	179 }	153	149	142		1
6				153	153	158	162	169	160	} 139	—	—	—	—	136	275	229	—	137	123 }	155	168	166	165	170	151	152		1
7	✓	✓	✓	153	158	183	218	233	247	240	226	187	166	151	165	165	153	149	147	150	146	146	140	125	116	114	(98)	166	0
8				—	—	—	—	—	—	—	—	—	95	118	132	139	129	126	136	135	133	134	127	120	114	113	112		0
9	✓			114	106	[85	79	80	82	134]	193	207	206	197	187	168	169	162	154	138	132	125	128	141	132	133	123	141	0
10	✓			109	[91	111	96	80	65	67]	118	151	187	203	193	175	176	153	122	110	95	[86	67	49	38	32	45]	109	0
11				[60	55	47]	} 60	86 }	[73]	99	105	106	112	121	135	138	(142)	160	—	[82	105	116]	146	146	132	145	152		1
12	✓	✓		172	186	188	205	[251	127	164]	179	139	140	137	142	148	125	121	126	134	142	142	140	133	127	123	121	150	0
13	✓			118	105	[84	83	77	75	98	138]	(201)	196	172	161	159	164	160	141	133	116	104	108	104	[89	77	72]	122	—
14	✓			[59	74]	159	170	174	181	158	192	214	220	227	226	214	192	175	170	151	160	165	160	167	182	203	226	176	—
15	✓			243	271	303	338	348	368	385	268	199	187	193	190	183	170	160	150	149	147	172 }	168	67	73 }	185	197	213	1
16				176	158	165	182	203	229	230	—	—	110	122	120	99	102	111	116	115	114	109	105	112	115	119	116		0
17	✓	✓	✓	112	107	105	115	114	139	148	145	149	151	153	151	136	138	136	132	136	136	127	116	107	115	135	(165)	132	0
18				—	—	—	—	—	244	227	187	—	—	—	—	—	—	—	—	—	—	—	—	109	115	127	158		0
19	✓	✓		180	188	153	232	263	254	190	127	134	142	124	137	137	140	148	143	133	122	123	112	101	122	142	191	156	1
20	✓	✓	✓	200	212	241	274	263	258	193	162	156	142	141	139	135	108	97	100	[97]	126	132	136	142	153	162	167	164	0
21	✓	✓		151	149 }	142	123	107	123 }	91	100	120	131	129	126	134	129	127	123	122	112	110	107	115	110	131	151	123	1
22	✓	✓	✓	153	145	173	181	197	266	230	215	193	159	143	142	138	126	110	99	101	111	107	108	111	126	137	129	150	0
23	✓	✓	✓	124	112	110	111	128	154	186	214	213	208	199	189	165	150	136	125	119	124	133	136	139	134	132	[113]	148	0
24	✓	✓	✓	[100	98	86	87	110	135]	226	234	215	206	203	170	161	155	(143	111)	121	142	151	133	125	108	115	122	144	0
25	✓	✓		112	93	[65	74	68	53	104]	158	155	166	182	195	177	178	154	140	136	135	124	133	135	126	122	116	129	0
26	✓			115	101	98	97	87	102	128	163	177	176	176	181	185	186	181	175	[148	109	95	110	116	110	106	104]	134	0
27	✓	✓		[91	79	73	68	68	67	93]	136	156	192	193	193	178	185	178	186	[159	140	128	119	122	114	109	116]	131	0
28	✓	✓		[111	108	91	75	80	108]	155	182	186	189	214	219	209	204	185	168	164	[108	101	107	107	102	98	78]	140	0
29	✓			[87	111]	158	142	158	170	216	223	229	218	210	226	220	216	216	207	187	194	164	[44	31	69 }	77 }	55]	159	1
30	✓			[65	59	74 }	88	97	123 }	192	216	192	194	194	187 }	173	162	182	192	111	194	138	135	170	162	128	151 }	149	2
31				133 }	161	132	152	149 }	121	128	145	135	119	108	98	112	(115)	119	116	102	127	126	111	110	102	99	[81]		1
MEANS * 24 DAYS				119	118	124	134	144	153	170	182	184	186	184	182	173	165	157	149	138	137	130	122	116	113	119	122	147	
MEANS † 18 DAYS				121	119	119	132	147	156	169	179	178	179	178	175	168	158	149	142	137	133	130	125	121	117	120	122	145	
MEANS ‡ 7 DAYS				131	129	143	160	177	204	210	207	198	186	179	171	159	145	134	124	125	133	134	130	129	130	137	136	155	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION } {=DISTURBED BY BAD WEATHER

TABLE 245

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈189	186	170	165	130⌋	81	81	79	75	78	79	77	71	53	94	≷ Z	174	35≷	56	71	76	70	80	77		1
2	✓	✓		80	82	75	82	56	67	78	110	93	≷N 55	N 63	76	N 37	N 51	N 62	111	105	110≷	100	106	95	93	[71	49]	79	1
3	✓	✓		[50	42	41	27	49	50]	62	69	83	78	72	73	80	83	78	83	83	82	76	78	78	72	69	83	68	0
4	✓	✓	✓	94	105	110	115	105	89	70	53	49	52	57	69	67	67	75	82	74	81	84	88	90	88	79	88	80	0
5	✓	✓	✓	93	102	112	122	128	117	97	73	62	61	61	65	68	69	73	74	80	⌈ 96	103	101	109⌋	100	100	101	90	0
6	✓	✓	✓	111	⌈120	128	163	153	142	113	89⌋	68	65	62	71	69	76	77	119	115	105	102	114	125	143	154	146	110	0
7	✓	✓	✓	140	136	134	128	138	107	102	105	93	90	87	83	81	84	79	⌈ 92	117	114	114	115⌋	105	106	117	130	108	0
8	✓	✓		125	⌈147	178	222	231	210	158⌋	91	67	62	68	75	74	77	71	84	84	102	80	94	106	102	108	112	114	0
9	✓			⌈131	128	149	155	149	180	177	105⌋	67	58	74	67	68	63	65	70	72	74	78	97	97	106	116	119	103	0
10	✓			117	126	130	116	114	89	50	41	37	40	40	42	54	55	58	58	⌈ 68	99	113	115	149	174	153	≷N 54≷	87	1
11	✓	✓		≷N 86≷	⌈144	148	134	114	77⌋	67	60	58	57	46	48	50	53	57	72	87	92	102	106	⌈125	156	181	161⌋	95	1
12	✓	✓		117	103	111	99	89	77	79	75	61	46	43	⌈ 31	14	N 2	N 4	N 3	N 2	N 14	43⌋	75	87	90	89	83	60	1
13	✓	✓		82	89	108	99	77	71	63	63	64	70	≷N 13	N 71⌋	82	65	69	63	65	73	77	90	108	⌈143	286	253⌋	94	1
14	✓	✓		⌈151	113	78⌋	59	42	37	35	34	41	48	50	58	55	57	55	62	71	71	70	80	⌈100	96	115	120⌋	71	0
15	✓	✓		⌈143	150	188	174	131	119	144	111⌋	92	94	86	98	87	82	82	78	⌈ 86	108	94⌋	88	88	99	94	101	109	0
16	✓	✓	✓	111	117	119	118	122	121	143	116	95	80	75	⌈ 74	90	110	115	114	95⌋	83	83	94	118	⌈164⌋	115	119	108	0
17	✓	✓	✓	115	98	93	84	67	83	78	75	64	65	67	72	77	83	83	81	87	90	100	102	115	120	136	145	91	0
18	✓	✓	✓	124	138	145	149	119	105	95	88	72	65	64	65	65	69	67	68	71	82	80	88	75	68	61	57	87	0
19	✓	✓	✓	52	55	83	101	131	132	139	124	97	65	65	68	⌈ 68	67	63	65	65	79	83	44	49	87	78	114⌋	82	0
20	✓	✓		⌈181	149	105⌋	70	65	54	58	53	45	46	48	51	53	64	63	65	68	68	67	⌈ 71	105	167	254	183⌋	90	0
21				⌈140	109	130	120	110⌋	73	68	73	61	44	49	55	57	65	—	—	⌈ 65	88	115	268	307	297	237	296⌋		0
22	✓	✓		⌈347	211⌋	112	60	95	97	⌈280	264	291	232	137	120	132	133	124	156	139	152	125	144	194	147⌋	143	131	165	0
23	✓	✓	✓	146	143	128	136	122	115	106	109	97	92	80	97	110	103	110	110	113	127	128	126	130	118	⌈142	162⌋	119	0
24	✓	✓		⌈165	185	172	143⌋	95	83	98	108	92	83	87	89	83	86	92	91	92	99	106	97	⌈124	136	125	126⌋	111	0
25	✓	✓		⌈153	172	142	89⌋	71	83	105	118	110	93	65	63	67	83	76	76	78	84	107	117	135	105	79	64	97	0
26	✓	✓	✓	57	75	84	83	83	79	82	73	57	59	(60	60)	61	68	80	83	87	75	80	81	90	89	71	70	74	0
27	✓	✓		68	59	80	87	87	88	91	89	71	70	81	80	73	82	79	83	89	84	97	⌈122	257	364	389	394⌋	128	0
28	✓	✓		⌈420	364	342	298	142⌋	78	81	88	106	107	99	91	99	95	⌈ 79⌋	92	⌈121	166	161	168	261	261	205	238⌋	173	0
29	✓	✓		⌈201	291	394	410	314	314	283	177	142	128	84	91	84	87	96	93	94	111	153	136	152	166	199	209⌋	184	0
30	✓	✓		⌈183	156	120⌋	87	62	67	80	99	91	88	71	61	59	65	59	65	70	71	75	70	75	83	97	54	84	0
31	✓	✓	✓	56	⌈ 86	108	132	134	110	94⌋	83	65	55	65	71	67	63	71	74	68	67	78	81	73	57	45	55	77	0
MEANS * 29 DAYS				134	134	135	129	113	105	107	95	84	76	68	72	72	74	75	82	84	92	95	100	118	128	133	128	101	
MEANS † 27 DAYS				135	135	135	129	112	103	107	96	86	78	69	73	72	75	76	83	85	92	95	99	117	127	133	131	102	-
MEANS ‡ 11 DAYS				100	107	113	121	118	109	102	90	74	68	68	72	75	78	81	87	88	91	94	94	98	104	100	108	93	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 246

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per-cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	738.9	24.5	58	32.9	14.4		6.3	SSE	4	E	11	NE	1	..	0	ACu; ASt	6-10	Cu; Nb	10	Heavy thunderstorm at 15h5; showers thereafter
2	737.3	22.0	85	22.6	21.9	0.54	3.5	..	0	SSE	3	SW	10	SSW	3	FrCu; Cu; Nb	10	ACu; ASt; Cu	10	Occasional drops of rain; clear in evening
3	741.2	18.6	49	25.0	12.7		10.8	..	0	SSE	6	S	6	S	9	Cu	6- 8	Cu	7- 8	
4	740.7	21.0	50	30.0	12.0		13.1	SSE	8	SE	7	SSE	2	S	10		0		0	
5	741.3	22.7	46	32.5	13.0		13.1	SSE	7	SSE	8	SSW	2	S	8		0		0	
6	739.7	24.5	48	32.9	14.3		13.0	S	4	S	6	SSW	9	S	5		0		0	Dew early
7	741.8	20.6	56	29.4	14.3		11.9	S	9	S	11	S	8	S	10	ACu	0- 1		0	
8	740.2	25.4	38	33.1	13.8		13.0	S	6	SE	6	S	6	S	5		0		0	Dew early
9	736.3	27.2	33	36.1	14.2		12.8	S	5	SE	8	SSE	2	S	9		0		0	Dew early
10	734.0	29.6	25	37.1	16.4		13.1	S	4	SE	4	SSW	16	S	10		0		0	
11	737.6	24.8	39	34.2	16.7		13.0	S	6	SE	14	S	15	S	11		0		0	Hazy
12	739.3	21.2	43	33.1	14.0		12.6	ESE	17	SE	18	ESE	18	SE	10	CiCu; CiSt	1- 3	CiCu; CiSt	1- 3	
13	738.9	26.4	34	39.9	18.5		11.4	ESE	13	E	14	ENE	6	S	3	ACu; ASt; FrCu	4- 6	ACu; ASt	4- 6	
14	737.3	34.5	20	42.8	21.7		10.3	SSE	2	NNE	4	WSW	6	S	4	CiCu; ACu; StCu	2- 6	CiCu; ACu; StCu	6- 1	
15	738.2	26.7	33	34.6	19.2		11.6	S	6	SE	10	S	7	SSW	9	CiSt	1- 3	CiSt	1- 3	Hazy at 9h; smoky in late pm
16	737.9	25.4	41	33.1	15.5		12.7	S	2	SSE	3	SSW	10	SSW	9	CiSt	1- 3	CiSt	4- 6	Smoky in early pm
17	739.8	21.6	65	27.8	16.3		9.7	S	9	S	11	SSW	11	S	13	CiSt; StCu	7- 9	StCu	6- 1	Possibly fog early
18	744.5	16.7	39	26.7	10.8		12.6	S	11	ESE	19	ESE	14	SE	3		0		0	Fire in distant SW
19	743.3	23.6	24	34.1	14.0		12.6	SSE	10	ENE	13	ENE	8	..	0		0		0	
20	740.3	30.8	14	37.6	16.8		12.5	..	0	NNE	11	S	1	S	4		0		0	
21	738.6	33.6	10	41.5	14.7		12.4	SSE	2	ENE	5	NNW	3	SSW	6		0		0	Very smoky in evening
22	737.6	24.0	54	30.9	15.0		11.1	SSW	4	SSW	7	SW	10	SSW	9	CiCu; CiSt; ACu; ASt	1- 6	ACu; ASt	6- 1	Heavy smoke in am; clouding with Cu in evening
23	740.6	17.5	46	22.8	13.5		10.9	SSW	8	S	14	S	14	S	8	Cu	6- 8	Cu	7- 8	Light rain in early hours or late previous night
24	743.7	17.8	39	26.4	8.8		12.6	S	2	E	14	ESE	10	S	6		0		0	
25	743.4	23.1	30	32.5	12.0		12.5	S	5	ENE	7	ESE	8	S	4		0		0	
26	741.3	28.3	20	36.6	(17.1)		11.4	ESE	6	ENE	11	ESE	4	SE	5	Ci; ACu	7- 8	Ci; ACu	6- 1	
27	742.3	31.0	16	39.3	19.0		11.3	SE	6	NE	8	S	2	SSE	9	CiSt	2- 6	CiSt	4- 6	Smoke in NE
28	741.9	28.8	25	28.4	18.4		12.1	S	2	E	6	S	8	S	9		0		0	Smoky in am; increasingly so after 15h
29	741.5	25.5	32	34.1	16.2		12.1	S	3	ESE	10	SSE	6	S	6		0		0	Heavy smoke
30	741.1	25.0	36	34.4	16.6		12.4	SSE	5	ESE	15	E	10	ESE	4		0		0	
31	739.9	28.6	29	37.6	20.2		12.4	ESE	6	ENE	12	ENE	4	ESE	2	Ci; CiCu	1- 3	Ci; CiCu	1- 3	Smoky
SUM						0.54														
MEAN	740.1	24.9	38	33.2	15.6		11.6	5.5		9.5		7.6		6.5						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 247

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[92	94	101	100	133]	189	200	199	197	193	194	195	197	198	192	≷234	260	262≶	240	220	205	208	213	217	189	1
2	✓	✓		217	223	223	239	254	245	210	144	147	110	121	125	121	114	125	121	133	139	146	147	160	157	169	170	165	1
3	✓	✓		189	204	228	246	210	200	170	149	156	160	156	154	137	113	106	121	133	135	143	143	152	151	151	149	161	0
4	✓	✓	✓	147	140	119	113	121	137	162	193	213	203	179	160	154	153	148	142	139	119	121	139	139	149	167	165	151	0
5	✓	✓	✓	154	131	119	114	119	131	149	179	199	202	193	180	172	162	161	149	151	[140	116	129	121]	137	143	134	149	0
6	✓	✓	✓	118	[113	94	79	72	77	97	134]	157	172	174	165	166	163	[153	77	114]	149	160	167	165	146	131	131	132	0
7	✓	✓	✓	147	152	151	154	163	176	148	153	160	157	154	158	160	172	188	[149	96	92	108	127]	134	147	146	126	147	0
8	✓	✓		134	[125	106	84	79	83	106]	165	219	208	190	194	189	(171)	178	175	[158	131]	161	178	175	175	172	160	155	0
9				[129	116	94	86	86	71	73	114]	183	200	127	126	139	139	139	139	134	—	—	—	—	129	121	113		0
10				113	105	114	117	127	170	288	343	—	—	—	—	273	234	199	162	[118	73	72	86	68	60	64	69]		1
11	✓	✓		[68	61	69	80	89	137]	172	(174	175	176)	176	170	153	137	121	113	105	89	94	104	[98	83	72	90]	117	1
12	✓	✓		114	135	134	147	161	167	179	178	170	170	170	169	165	161	156	160	153	149	162	167	174	179	190	184	162	1
13	✓	✓		174	169	151	148	163	190	209	218	205	198	213	215	218	202	198	190	188	183	180	180	175	[144	72	72]	177	1
14	✓	✓		[97	134	208]	271	322	338	351	348	314	235	174	174	181	166	[160	118	114	126]	157	160	[134	113	81	72]	190	0
15	✓	✓		[63	52	52	49	54	54	57	61]	61	68	66	66	85	(93	94)	100	[81	54	66]	89	98	94	97	98	73	0
16	✓	✓	✓	100	98	94	92	89	83	92	109	134	143	147	[140	94	49	26	44	122]	160	169	170	165	[130]	154	146	115	0
17	✓	✓	✓	123	121	137	149	172	178	181	176	171	172	169	169	154	139	137	137	142	137	142	131	121	116	100	89	144	0
18	✓	✓	✓	100	93	88	97	121	123	144	154	160	165	172	165	153	143	138	140	143	140	143	161	184	198	223	234	149	0
19	✓	✓	✓	238	231	220	194	156	138	126	137	147	220	222	218	[202	119	121	148	170	129	121	137	112	143	198	163]	167	0
20	✓	✓		[90	118	189]	234	208	225	214	209	198	199	188	178	160	139	144	147	149	152	149	[147	108	80	42	41]	154	0
21	✓			[45	50	64	72	97]	123	158	162	174	236	223	195	175	162	171	130	126	109	97	29	33	48	48	61	116	0
22	✓	✓		[63	83]	98	100	90	73	[44	37	(35)	38	84	100	81	(79	75)	72	97	58	69	85	80	126]	137	134	81	0
23	✓	✓	✓	135	134	127	138	140	146	149	133	134	137	135	134	133	125	123	125	117	109	106	102	108	114	[98	92]	125	0
24	✓	✓		[93	94	102	121]	180	194	171	156	154	156	147	127	133	125	143	157	161	161	162	166	[134	92	96	105]	139	0
25	✓	✓		[92	84	92	130]	183	197	172	143	144	152	199	212	202	198	198	183	167	[149	114	88	77	108	162]	213	152	0
26	✓	✓	✓	231	223	210	220	223	215	210	223	248	235	222	212	210	194	176	172	176	170	175	172	172	135	139	162	197	0
27	✓	✓		169	175	186	185	169	160	165	184	218	223	193	189	188	172	167	169	162	156	148	[143	60	39	38	41]	154	0
28	✓	✓		[46	54	63	84	143]	234	212	162	151	160	158	134	133	149	[139]	151	[88	48	69	84	46	54	66	49]	112	0
29	✓	✓		[30	30	29	26	27	30	42	56	65	75	81	75	92	(80)	101	116	96	71	63	81	69	71	69	72]	64	0
30	✓	✓		[76	86	110]	138	163	157	149	134	129	142	153	156	162	148	138	127	[104	84	85	80	68	60	61	96]	117	0
31	✓	✓	✓	121	[123	102	93	83	86	121]	158	217	213	[188	143	148]	169	166	148	139	135	138	[108	109	152	209]	229	146	0
MEANS * 29 DAYS				120	122	126	134	144	155	157	160	167	170	167	161	156	145	143	138	137	129	131	132	123	122	126	127	141	
MEANS † 27 DAYS				123	125	130	138	146	155	156	158	166	166	164	159	154	142	140	135	133	125	128	133	124	122	125	127	141	
MEANS ‡ 11 DAYS				147	142	133	131	133	135	144	159	176	184	178	168	159	144	140	130	137	135	136	140	139	142	155	152	147	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[63	58	64	61	101]	173	191	189	182	183	181	186	173	175	155	≷228	232	257≷	207	184	175	170	146	154	162	1
2	✓	✓		178	178	191	203	224	203	180	125	125	100	106	108	115	115	119	105	110	116	118	109	115	114	120	134	138	1
3	✓	✓		154	156	159	180	170	162	148	136	145	146	146	146	139	120	106	117	130	130	133	130	135	135	137	130	141	0
4	✓	✓	✓	125	116	98	90	99	117	151	193	209	202	182	146	142	138	135	133	135	112	109	125	127	128	138	135	137	0
5	✓	✓	✓	132	109	97	98	99	104	126	166	188	196	192	173	163	151	148	138	135	[123	102	115	107]	118	125	115	134	0
6	✓	✓	✓	102	[96	74	56	57	65	83	115]	150	162	161	158	158	159	[146	71	105]	140	139	129	124	119	100	104	116	0
7	✓	✓	✓	119	124	119	117	116	134	119	135	161	148	147	154	159	172	191	[146	86	83	98	108]	122	128	124	107	130	0
8	✓	✓		106	[86	73	59	53	58	81]	152	208	206	185	188	181	173	(171)	168	[149	123]	148	146	138	140	144	135	136	0
9				[101	91	78	68	67	55	55	110]	171	196	118	116	133	135	128	129	125	124	124	115	109	104	99	90		0
10				88	88	88	94	101	141	259	341	—	—	—	—	276	230	182	147	[106	61	58	69	57	49	51	66]		1
11	✓	✓		[64	53	56	65	71	116]	161	173	180	175	187	176	152	136	124	108	101	83	84	89	[75	65	58	67]	109	1
12	✓	✓		96	118	115	134	151	156	160	170	179	170	181	182	183	184	179	171	172	171	175	160	159	171	187	174	162	1
13	✓	✓		157	155	134	135	150	179	198	208	197	189	221	211	226	215	195	196	192	180	166	155	150	[113	50	39]	167	1
14	✓	✓		[66	107	166]	232	285	307	279	334	302	238	181	185	179	175	[161	109	104	116]	139	141	[113	88	65	58]	172	0
15	✓	✓		[50	49	38	38	44	43	44	53]	61	58	64	57	77	(98)	100	93	[71	46	59]	81	91	82	88	84	65	0
16	✓	✓	✓	77	73	73	74	69	67	75	94	123	127	133	[126	81	39	26	50	119]	159	166	147	130	[102]	127	122	99	0
17	✓	✓	✓	114	114	119	136	154	152	151	154	164	170	171	175	157	141	148	146	132	124	126	114	107	102	81	75	134	0
18	✓	✓	✓	91	82	78	80	101	115	133	150	159	166	171	170	158	146	146	145	145	137	140	158	150	170	184	206	141	0
19	✓	✓	✓	233	224	205	176	134	117	108	120	138	222	230	233	[224	123	127	150	172	115	106	129	99	112	170	137]	158	0
20	✓	✓		[68	86	135]	197	175	197	184	202	200	205	201	185	167	138	140	154	147	139	136	[130	92	64	31	34]	142	0
21	✓			[37	44	55	69	84]	115	132	125	159	240	244	213	185	170	171	[133	124	102	84	27	26	32	35	35]	110	0
22	✓	✓		[29	59]	77	88	60	55	[35	30	(29)	28	69	84	67	(83)	98	57	89	49	60	73	60	98]	97	105	66	0
23	✓	✓	✓	100	91	93	93	109	117	125	122	130	125	134	126	124	125	124	123	108	101	94	93	92	99	[83	74]	109	0
24	✓	✓		[67	59	67	82]	126	(148	151	150)	159	144	145	(140	132)	126	149	163	(168	167	163	148)	[109	82	83	82]	125	0
25	✓	✓		[69	67	74	102]	(145	170	154	137)	132	141	192	216	213	(210	213	197)	169	[147	104	78	66	81	137]	191	142	0
26	✓	✓	✓	209	199	192	199	200	187	180	214	249	251	237	226	222	209	191	175	173	171	172	154	144	125	136	155	190	0
27	✓	✓		155	163	152	151	134	130	132	166	208	219	189	182	187	173	164	166	158	145	130	[115	44	28	20	24]	139	0
28	✓	✓		[23	24	32	43	115]	189	174	148	141	137	130	114	116	139	[130]	144	[81	37	64	73	37	45	49	35]	92	0
29	✓	✓		[28	26	23	19	22	30	29	50	63	58	71	65	83	71	(82)	93	85	61	48	57	55	59	48	41]	53	0
30	✓	✓		[60	72	92]	116	148	148	137	125	126	134	154	161	164	148	135	123	[100	81	83	74	59	46	49	92]	109	0
31	✓	✓	✓	115	[109	92	81	78	82	102]	148	199	220	[186	134	140]	167	163	142	132	127	126	[97	86	128	180]	198	135	0
MEANS * 29 DAYS				100	100	101	109	120	132	135	148	161	164	165	159	154	145	143	136	132	122	120	115	103	102	103	105	128	
MEANS † 27 DAYS				103	104	105	113	122	131	133	147	160	161	162	156	152	143	141	133	128	118	118	116	103	102	104	106	128	
MEANS ‡ 11 DAYS				129	122	113	109	111	114	123	146	170	181	177	166	157	143	140	129	131	127	125	124	117	121	132	130	135	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

()=INTERPOLATED []=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 249

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		38	45	34	45	50	45	49	59	64	[79	91	70	87]	76	N 58	45	57	73	[63	53	45	38	65]	N 102	60	1
2	✓	✓		[120]	84	76	58	70	97	70	100	83	[111	130	120	147	185	216	227	265	265	277	301	317	279	258	251]	171	0
3				[258	262	256	257	202	Z+	Z+	291	177	151	153	158	148	139	124	108	105	132	185	202	257	235	306	286]		0
4				[215	158]	—	—	—	—	—	—	[188	143]	124	118	112	89	89	[134	182	257	271	297	321	344	301	284]		0
5				[279	288	259	246	274	202	200	177	139]	Z	−13 }	[108	122	145	188	199	232	212	224	226	223	216	218	181]		1
6	✓	✓		[188	147	156	195	180	166]	135	136	119	113	95	91	91	94	89	91	92	89	99	100	98	99	95	98	119	0
7	✓	✓	✓	75	67	67	57	49	N 53 }	73	78	87	93	90	92	97	N 105 }	105	110	113	113	116	111	103	105	143	151	94	1
8	✓	✓	✓	122	101	83	87	84	75	80	87	91	96	83	95	97	102	101	109	124	130	[152	165	148]	136	158	151	111	0
9	✓	✓	✓	137	119	102	89	87	79	93	98	89	83	83	87	86	[89	100	98	84]	84	89	[102	113	143	132	118]	99	0
10	✓	✓		[164	165	157	134	165	142	127	136]	88	72	75	71	78	71	N 62	N 53	69	67	83	90	83	87	75	95	100	1
11	✓	✓	✓	67	68	69	62	61	64	67	68	55	50	49	51	[56	61	80	90	79	75	63	46	62	106	83	119]	69	0
12				[156	172	168	156	140	124	107	92]	57 }	Z	Z	62	70	72	61	N 65	N 50	Z	Z	Z }	[153	Z+	Z+	122]		2
13	✓	✓		[99	168	92	144	108]	75	71	65	52	50	57	N 56 }	64	N 36 }	51 }	68	93 }	60	54	50	51	81	89	75	75	1
14				90	99	100	101	97	89	84	83	80 }	Z	N 45	74	N 51	Z	−7	N 7	−24	Z−	Z	Z−	Z	Z−	Z−	Z− }		2
15	✓	✓		} −19	N 35	−5	N 46	92 }	57	40	65	54	51	33	54	69	74	94	120	[101	125	151	168	133]	93	108	114	77	1
16				} Z+ }	127	119	100	N 77 }	N 61	57	39	N 43	72 }	93	102	87	105	108	124	120	[135	129	147	158	157	155	139]		1
17	✓	✓		[135	134	127	126]	105	113	92	92	94	97	107	88	95	110	112	116	105	136	102	[175	154	170	190	189]	124	0
18	✓	✓		[175	159	157	153	133]	127	102	98	109	113	111	114	115	133	120	114	106	[176	166	140	153	164	162	243]	139	0
19	✓			[290	305	220	193	216	177	161	163	162	128	134	124	110	111	121	117	136	148	137	189	166	144	145	162]	165	0
20	✓	✓	✓	139	148	142	121	109	105	107	77	108	97	86	84	89	90	[110	119	133	140	(142	143)	140]	117	121	90	115	0
21	✓	✓		69	68	64	78	[94	108	103	89]	78	76	76	87	102	118	122	132	136	[121	143	156	231	275	235	189]	123	0
22				[167	159	168	181	242	171	118]	70	62	69	62	48	} −7	42	Z	Z−	N 4	N 26 }	—	—	—	—	—	—		1
23				—	—	—	—	—	—	—	—	—	81	73	74	67	67	72	76	95	100	82	95	102	108	126	134		1
24	✓	✓	✓	[143	144	164	163	163	167	168	136]	126	129	121	116	113	115	115	108	109	99	86	94	94	100	98	107	124	0
25	✓	✓	✓	[121	128	137	143	132	136	124	128	130	125	124	130	135	136	137	149	143	126	91	88	119	113	126	114]	126	0
26				[125	150	121	190	233	218	188	202	—	—	190	177	142]	112	107	105	127	[164	169]	N 68 }	[95	116	191	244]		1
27				[233	235	196]	N 122 }	Z+	Z	Z	Z }	90	65	62	54	} 33	−1	Z	Z	91 }	[91	98	87	103	111	79	138]		2
28	✓	✓		[212	249	186	166	131	184	158]	135	138	113	112	117	[130	122	120	126]	107	107	121	139	129	129	117	133	141	0
29																													
30																													
31																													
MEANS * 18 DAYS				126	130	113	114	113	109	101	101	96	93	92	92	98	102	106	111	114	119	119	128	130	132	133	139	113	
MEANS † 17 DAYS				117	119	106	110	107	105	98	97	92	91	90	90	97	101	105	110	113	117	118	125	128	131	133	138	110	
MEANS ‡ 7 DAYS				115	111	109	103	98	97	102	96	98	96	91	94	96	100	107	112	112	110	106	107	111	117	123	121	106	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } { = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 250

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	738.6	31.2	19	39.6	21.0		10.8	..	0	NNE	12	ENE	4	ENE	1	Ci; CiSt	3- 6	Ci; CiSt	7- 8	Smoky
2	737.8	29.0	20	38.2	18.8		10.2	..	0	NNE	2	SSW	12	S	4	Ci; CiSt; CiCu	7- 8	Ci; CiSt; CiCu	4- 6	Increasingly smoky throughout day
3	740.1	25.5	48	37.0	14.5		11.4	SSW	3	SE	5	S	2	S	5	CiSt	1- 3	CiSt	1- 3	Heavy fog early; smoky all day
4	739.7	24.4	54	37.2	15.0		9.2	SSW	2	S	3	S	2	SSW	6	Ci; CiSt; ACu	7- 9	Ci; CiSt; ACu	7- 8	Fog early; smoky all day
5	735.7	23.6	65	35.0	16.3		7.5	SSW	3	SSW	4	SW	8	WSW	8	CiSt; ACu; ASt	7- 8	CiSt; ACu; ASt	7- 8	Smoky throughout; lightning in evening
6	734.9	21.1	61	27.6	16.2		8.8	WSW	3	W	6	N	8	WSW	5	CiSt; ASt; FrCu	7- 8	CiSt; ASt; FrCu	7- 8	Smoky
7	737.2	16.4	86	23.0	8.6	0.04	7.3	..	0	WNW	3	SW	19	SSW	4	Nb; ACu; ASt	10- 4	ACu; ASt	4- 6	Heavy dew early, probably fog; light rain in am
8	742.1	17.9	48	26.3	6.0		12.3	..	0	SE	8	S	4	S	12	ACu	1- 3	ACu	1- 3	Dew, perhaps fog, early
9	740.6	22.0	38	32.9	10.4		11.3	SSW	4	SE	9	SSE	5	S	10	CiSt; ACu	1- 3	ACu	1- 3	Distant fires in N
10	738.1	27.2	28	36.4	16.5		12.3	SE	12	E	11	ENE	13	E	3	CiSt; ASt; ACu	1- 3	ASt; ACu	1- 3	
11	737.4	31.0	26	40.0	17.9		11.3	ESE	4	E	8	ENE	5	ESE	9	Ci; CiSt	1- 3	Ci; CiSt	4- 6	Smoky
12	737.2	32.0	44	41.7	24.9		6.8	ESE	7	ENE	14	ENE	9	SW	6	CiSt; CiCu; ASt	7- 8	ASt; StCu; CuNb	7- 8	Thunderstorm in pm
13	736.8	31.9	29	36.2	23.8		2.8	E	3	ENE	11	ESE	10	ENE	4	CiCu; ASt; StCu	7-10	CiCu; ASt; StCu	7-10	Few drops of rain during day; air smoky at 9h
14	734.0	24.7	61	24.7	23.6		0.4	NE	8	ENE	18	ESE	14	SSE	..	ACu; ASt; StNb; Nb	10	ACu; ASt; StNb; Nb	10	Rain throughout day
15	730.8	19.4	87	25.8	18.2	2.17	1.5	SE	..	ESE	..	SSE	9	WSW	5	CuNb; Nb; FrCu	10	FrCu; CuNb; Nb	10	Rain
16	733.9	19.2	93	25.4	18.6	0.06	5.6	WSW	2	WSW	4	WSW	13	SW	4	FrCu; StCu; Nb	10- 7	FrCu; StCu; Nb	6- 1	Rain at intervals
17	738.8	18.4	64	24.7	11.5	0.03	6.8	..	0	SE	1	S	1	SSW	7	Ci; FrCu; StCu	10- 7	Ci; FrCu; StCu	6- 1	
18	739.2	22.0	52	32.2	12.3		12.3	S	3	ESE	1	SE	2	SSW	6	Ci	1- 3	Ci	1- 3	Smoky
19	737.1	21.1	67	27.6	16.0		7.6	SSW	6	SSW	7	WSW	9	SSW	10	ACu; ASt	4- 6	ACu; ASt	1- 3	
20	741.7	17.7	54	24.1	10.6		9.6	SSW	2	SSE	10	S	9	S	11	Cu; FrCu; ACu	9- 7	Cu; FrCu; ACu	6- 1	
21	743.0	19.9	45	28.1	12.0		11.8	S	5	ESE	13	ESE	8	S	4	Ci	1- 3	Ci	1- 3	Much smoke
22	740.5	23.8	34	25.7	13.4		0.3	SSW	2	ENE	8	..	0	SSE	6	ACu; ASt; Cu; Nb	7- 9	ACu; ASt; Cu; Nb	7- 8	Rain at intervals
23	737.3	23.6	63	33.9	17.6	0.24	8.5	S	2	SW	1	W	2	SSW	6	ACu; ASt; FrCu	10- 7	ACu; ASt; FrCu	4- 6	Rain in early am
24	741.1	24.2	65	32.1	18.8		11.8	S	6	SE	9	SSW	6	SSW	12	CiSt; ASt; ACu; FrCu	1- 3	ACu; ASt	4- 6	
25	741.0	23.4	54	32.6	18.0		11.6	S	9	SE	11	SSE	9	SSW	8	ACu; ASt	1- 3	ACu; ASt	1- 3	
26	737.7	23.7	51	37.1	17.9		10.8	S	4	SE	11	ENE	2	SE	3	ACu; ASt	4- 6	ACu; ASt	1- 3	Smoky
27	735.3	31.4	35	41.1	21.7		7.1	SSW	2	ENE	9	N	9	..	0	ACu; ASt; CuNb; Nb	6-10	ACu; ASt; CuNb; Nb	7-10	Thunderstorm in pm; much smoke
28	736.6	21.7	77	27.8	20.0	0.05	7.7	WSW	4	SW	7	SSW	7	SSW	7	Cu; StCu; FrCu	7-10	Cu; StCu	6- 1	
29																				
30																				
31																				
SUM						2.59														
MEAN	738.0	23.8	52	31.9	16.5		8.4	3.6		7.6		7.2		6.1						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 251

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		244	208	233	259	268	272	273	236	197	[149	84	133	76]	135	134	112	[80	68	65	52	49	54	68	65]	146	1
2	✓	✓		[86]	110	121	131	138	119	123	130	104	[77	65	77	56	41	34	35	37	35	35	37	41	46	50	56]	74	0
3	✓			[54	49	48	44	58	37	29	49	71	81	68	69	76	68	72	79	77	71	66	68	65	63	60	63]	62	0
4	✓			[63	56	68	68	69	71	69	71	71	80]	93	94	96	116	119	[66	44	35	30	26	34	39	38	42]	65	0
5	✓			[45	39	39	49	37	41	42	52	56	63	61	64	80	50	35	27	31	31	29	35	39	48	58	66]	47	1
6	✓	✓		[76	73	90	80	86	94]	109	105	108	114	125	135	147	147	152	152	148	152	160	158	157	174	186	184	130	0
7	✓	✓	✓	200	241	248	273	314	308	220	193	175	156	148	144	126	}105{	119	130	130	114	122	134	142	147	139	129	173	1
8	✓	✓	✓	134	153	171	179	186	195	199	176	154	147	152	147	144	133	116	108	88	88	[81	65	85]	112	106	108	134	0
9	✓	✓	✓	108	116	123	131	142	149	156	158	162	167	166	148	158	[133	83	88	110]	121	122	[108	105	97	94	98]	127	0
10	✓	✓		[84	102	93	85	100	105	123	122]	138	154	189	188	180	[161	133	135	108	54	64	96	137	169]	198	203	130	1
11	✓	✓	✓	244	233	256	280	301	267	243	225	253	241	198	184	[154	81	57	76	76	58	56	80	53	35	49	63]	157	0
12	✓			[66	80	92	104	112	109	122	156]	208	}157{	134	146	96	88	(92	94)	98	42	46	65}	[85	65	42	110]	100	2
13	✓	✓		[163	123	217	174	215]	248	266	260	249	222	185	}133{	152	160}	186	}172{	85}	167	170	186	185	192	202	215	189	1
14	✓			203	179	176	192	207	209	185	171	178	}140{	189	162	}160{	102	166	158	147	89	85	106	85	148	146	176}	157	2
15	✓	✓		}205{	189	188}	207	199	194	229	233	213	229	217	210	209	181	167	174	[139	108	96	86	119]	134	127	123	174	1
16	✓			}113{	121	121	147	154	170	184	181	}188{	172}	181	172	158	157	157	160	158	[134	125	126	129	131	135	144]	151	1
17	✓	✓		[149	154	156	160]	174	193	200	194	172	161	147	143	134	134	137	142	152	152	160	[129	133	134	133	133]	153	0
18	✓	✓		[135	135	126	134	144]	146	170	171	170	158	160	147	142	140	142	143	144	[76	81	104	106	109	112	76]	132	0
19				[52	57	77	86	90	86	72	83	100	110	100	123	140	147	147	—	—	—	—	—	—	92	121	94]		0
20	✓	✓	✓	125	127	131	140	152	160	162	160	140	133	133	129	125	125	[106	96	79	64	41	45	53]	92	90	88	112	0
21	✓	✓		88	90	94	94	[92	77	86	105]	130	151	133	133	97	86	88	80	68	[46	53	61	38	39	49	63]	85	0
22				[76	76	69	71	75	106	140	235]	238	208	209	193	178	185	}147{	138}	154	133	}121{	118	79	49	94}	84		1
23	✓			86	88	94	118	134	149	}166{	224	223}	225	253	238	240	236	223	203	156	171	202	185	192	194	180	161	181	1
24	✓	✓	✓	[147	129	118	104	93	84	83	101]	98	101	104	96	104	92	90	102	109	113	119	113	116	127	125	117	108	0
25	✓	✓	✓	[97	90	85	94	102	101	102	110	94	80	68	66	52	65	60	52	53	52	81	96	86	79	79	88]	80	0
26	✓			[81	73	77	68	68	80	88	81	86	68	48	58	89]	105	(135)	143	117	[73	56]}	72}{	[80	75	64	56]	81	1
27	✓			[64	68	77]}	92	101	161	152	110}	175	224	190	146	}117{	90	23	71	108}	[88	83	81	90	138	185	208]	118	2
28	✓	✓		[76	75	80	81	80	79	83]	93	93	104	101	96	[76	79	102	109]	130	157	147	131	139	152	169	169	108	0
29																													
30																													
31																													
MEANS * 26 DAYS				121	119	128	134	143	147	149	149	150	144	138	133	125	116	113	112	103	91	91	94	98	107	111	116	122	
MEANS † 17 DAYS				139	138	149	153	164	164	166	163	156	150	140	136	125	118	112	112	102	96	97	99	103	111	116	116	130	
MEANS ‡ 7 DAYS				151	156	162	172	184	181	166	160	154	146	138	131	123	105	90	93	92	87	89	92	91	98	97	99	127	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 252

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		221	182	204	230	242	241	232	209	176	[124	70	116	64]	115	118	100	[69	56	49	38	45	49	56	53]	127	1
2	✓	✓		[70]	77	100	108	106	87	98	102	99	[59	55	65	44	29	28	26	27	30	32	27	29	29	27	34]	58	0
3	✓			[34	32	29	24	35	25	19	34	56	56	55	58	57	57	66	66	(65	60	52	52	48	40	41	39]	46	0
4	✓			[34	37	41	43	44	49	48	54	57	60]	68	80	81	99	102	[56	35	27	25	28	25	22	29	27]	49	0
5	✓			[27	29	32	40	31	35	36	40	49]	⟨ 30	59	⟩[56	60	(44	22)	22	22	26	22	22	29	32	28	41]	35	1
6	✓	✓		[43	52	53	54	58	56]	66	82	91	97	111	121	123	129	142	146	137	133	122	110	110	115	123	122	100	0
7	✓	✓	✓	148	188	203	237	268	⟨ 277 ⟩	188	163	(146)	142	141	131	116	⟨ 94 ⟩	106	112	118	102	105	107	106	100	(93)	73	144	1
8	✓	✓	✓	99	133	147	142	160	168	177	177	(160)	132	137	128	127	115	105	97	79	77	[70	54	70]	91	87	92	118	0
9	✓	✓	✓	92	96	106	116	124	136	138	150	154	164	164	135	136	[114	71	81	109]	113	110	[92	95	81	77	73]	114	0
10	✓	✓		[65	82	74	71	80	86	104	106]	123	147	179	181	173	[159	123	126	89	48	62	86	113	127]	160	161	114	1
11	✓	✓	✓	202	192	216	254	250	229	210	214	248	232	185	181	[147	80	59	65	72	56	55	68	45	35	44	57]	142	0
12	✓			[60	65	73	80	96	91	107	132]	195	⟨ 170	138	121	83	(113)	109	108	91	67	48	82 ⟩	[68	34	26	80]	93	2
13	✓	✓		[141	95	156	101	139]	191	202	230	237	203	165	⟨ 118	133	147 ⟩	170	⟨ 167	78 ⟩	147	153	164	156	153	160	173	157	1
14	✓			159	142	140	141	149	153	152	146	152	⟨ 193 ⟩	180	150	⟨ 153	248	166	161	154	174	175	197	189	177	220	229 ⟩	171	2
15	✓	✓		⟨ 218	186	192 ⟩	200	185	174	226	207	194	193	192	188	180	161	143	143	[114	85	78	70	83]	101	100	87	154	1
16	✓			⟨ 94 ⟩	84	88	106	121	137	142	151	⟨ 158	138 ⟩	148	145	139	136	141	138	129	[107	96	88	86	86	82	87]	118	1
17	✓	✓		[97	99	104	107]	116	136	136	154	143	137	129	126	123	113	109	110	112	109	98	[97	99	104	88	80]	114	0
18	✓	✓		[78	79	84	86	86]	102	122	141	134	127	123	110	108	99	110	116	112	[61	64	85	83	82	85	55]	97	0
19				[34	37	57	66	66	69	56	66	80	83	78	107	119	126	135	140	104	59	96	78	35	75	91	70]		0
20	✓	✓	✓	84	81	70	85	91	93	105	131	119	121	126	123	115	114	[97	86	73	60	41	40	47]	79	78	82	89	0
21	✓	✓		83	86	86	82	[71	62	82	109]	113	133	142	115	86	81	79	68	58	[39	52	52	31	32	36	45]	76	0
22				[54	59	52	50	38	55]	—	—	215	188	185	175	174	164	163	161	145	120 ⟩	129	92	73	74	73 ⟩	58		1
23	✓			59	64	67	75	100	106	⟨ 162	183	194 ⟩	192	208	216	215	213	205	193	142	153	164	141	149	146	132	126	150	1
24	✓	✓	✓	[112	96	88	81	72	67	66	84]	94	86	84	81	73	74	73	84	99	98	99	94	108	110	104	96	88	0
25	✓	✓	✓	[79	74	72	72	71	78	82	95	86	68	60	57	49	61	52	39	45	52	72	86	78	68	68	70]	68	0
26	✓			[68	56	57	55	52	57	65	70	85	62	47	53	75]	(77	81)	120	91	[58	53 ⟩	66 ⟩	[69	61	55	45]	66	1
27	✓			[45	44	58]	⟨ 71	38	69	125	136 ⟩	158	214	183	139	⟨ 111	86	115	68	93 ⟩	[78	73	77	64	105	149	109]	100	2
28	✓	✓		[61	59	62	55	58	61	66]	78	73	77	82	87	[62	71	84	88]	110	131	121	99	107	119	119	109	85	0
29																													
30																													
31																													
MEANS * 28 DAYS				95	93	100	104	109	114	121	130	134	129	124	118	109	109	103	99	89	83	80	82	82	84	87	86	103	
MEANS † 17 DAYS				111	109	119	122	128	132	135	143	141	132	126	121	109	103	98	97	88	82	81	81	83	87	89	86	108	
MEANS ‡ 7 DAYS				117	123	129	141	148	150	138	145	144	135	128	119	109	93	80	81	85	80	79	77	78	81	79	78	109	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ⟨ ⟩=DISTURBED BY BAD WEATHER

TABLE 253

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	132	136	126	118	113	97	[117	105	111	116	132	128	138	120]	126	120	148	145	129	137	125	108	124	115	124	0
2	✓	✓		77	[105	132	147	157	162	162	147	151	133	144	145	146	142	138	126	125	118	130	111]	76	86	115	[154]	130	0
3	✓	✓		[167	186	161	164	163	147]	122	112	103	97	107	106	106	103	106	[109	112	109	117	155	120	156	132	125]	129	0
4	✓	✓		118	143	126	138	108	86	84	102	88	80	76	84	[92	96	96	101	109	115	131	147	228	208	204	192]	123	0
5				[232	215	172	171]	139	112	103	≷N 46	Z	Z+	76≶	91	103	96	97	93	76	≷N 25	N 14≶	79	[83	147	137	150]		1
6	✓	✓		[155	145	149	134	133]	109	97	89	79	73	77	82	94	[100	121	135	134	127	127	96	142	230	342	340]	138	0
7	✓			[382	397	354	342	296	373	410	401	310	248	191	180	186	181	177	201	151	196	252	339	[471]	358	189	165]	281	0
8	✓			[194	220	215	202	186	148]	110	115	111	94	93	100	124	[133	146	154	163	159	149	209	268	301	227	245]	169	0
9	✓	✓		[276	261	202	190	113]	76	74	78	91	92	112	96	100	114	116	133	100	101	[182	256	254	252	212	197]	153	0
10				[201	252	309	189	206	181	192	234	163	82]	58	65	72	78	83	[102	119	115	211	316	418	Z+	Z+	Z+]		0
11				[Z+	Z+	Z+	Z+	309	250	262	199]	116	118	[133	128	124	132	151	127	129	129	130	171	119]	121	114	114		0
12	✓	✓		[134	153	169	193	209	176	150	167	133	112	112	120	115	128	131	136	122	143	134	146	180	168	157	144]	147	0
13	✓	✓		[142	142	145	154	135	132]	125	128	110	111	93	87	84	100	N106	102	[107	105	119	153	207	212	237	184]	134	1
14	✓	✓		135	131	107	92	83	79	76	68	67	72	74	82	82	93	89	96	86	94	[102	117	177	157	176	168]	104	0
15	✓	✓		138	133	132	108	91	82	64	77	82	86	89	80	81	82	92	90	98	102	86	[102	155	184	189	174]	108	0
16				[170]	≷ Z+	Z	N 49	N 33	N 87	Z	Z	Z	Z	Z	Z	49	Z	Z	Z	Z	Z	Z	Z	Z	Z	89≶	103		2
17	✓	✓		122	110	90	86	89	86	72	80	[162	156	140	125	129	133	132	129	135	150	174	130	143	165	162	175]	128	0
18	✓	✓	✓	[159	125	130	172	157	127]	106	106	116	114	105	97	106	111	113	131	138	[138	158	159]	138	142	143	147	131	0
19	✓	✓		155	121	129	128	[188	202	244	197]	120	111	106	112	113	116	117	118	112	118	[165	149	142	156	169	162]	144	0
20	✓			[171	167	154	226	205	205	189	159]	106	81	72	70	72	79	80	82	87	96	[182	232	271	303	280	269]	160	0
21	✓	✓		[250	239	212	159	120]	91	70	68	56	55	56	65	64	74	68	67	82	95	83	[115	140	180	144]	111	111	0
22				102	108	92	91	73	75	62	63	—	—	64	65≶	73	Z	Z	Z	Z	Z	Z ≷	134	119	103	129	113		1
23	✓	✓	✓	103	97	63	69	67	62	70	67	63	56	62	63	71	77	86	86	81	71	77	103	136	124	118	102	82	0
24	✓	✓	✓	89	79	87	81	87	93	88	94	77	63	59	50	48	59	61	62	67	74	77	88	102	108	93	89	78	0
25	✓	✓	✓	91	90	97	108	103	90	77	78	77	67	70	74	70	91	100	110	112	128	127	163	153	109	138	150	103	0
26	✓	✓		133	117	120	98	93	79	69	67	65	78	82	97	97	105	106	118	118	[144	145	165	156	192	163]	118	114	0
27	✓	✓	✓	112	103	98	98	87	78	71	68	70	73	80	84	82	93	108	95	91	105	82	76	71	77	87	68	86	0
28	✓	✓	✓	61	70	71	57	50	49	49	48	53	58	59	63	68	67	64	71	73	[88	91	101	96	130	140	139]	76	0
29	✓	✓		[111	87]	57	50	49	43	50	54	56	68	68	75	83	74	74	79	79	79	69	63	[73	196	171]	[89]	79	0
30	✓	✓		[120	166	130	87]	79	68	64	64	72	71	65	73	79	76	76	86	99	106	96	[105	159	164	152	162]	101	0
31	✓	✓		[184	226	230	165]	111	91	75	72	65	63	68	59	61	71	80	80	75	87	79	97	118	109	126	119	105	0
MEANS * 26 DAYS				150	152	142	137	126	117	111	108	100	93	92	92	96	101	104	108	108	115	126	143	165	176	169	158	125	
MEANS † 23 DAYS				138	138	129	122	112	100	95	93	90	87	89	89	92	97	100	103	104	111	117	128	143	157	161	149	114	
MEANS ‡ 7 DAYS				107	100	96	100	95	85	83	81	81	78	81	80	83	88	94	96	101	107	106	118	117	114	120	116	97	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 254

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	738.9	18.9	66	26.9	14.8		9.8	SSW	6	S	10	S	8	SSW	8	ACu; ASt; StCu	7-10	ACu; ASt; StCu	6- 1	
2	740.4	18.5	63	25.4	13.1		11.2	S	9	SE	13	SE	11	S	6	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
3	743.0	17.5	44	26.7	12.5		11.5	SE	11	ESE	13	ESE	11	SE	4		0		0	
4	740.9	18.0	53	29.4	15.2		11.5	SE	4	E	9	ESE	6	S	8		0		0	Possibly smoky in evening
5	739.7	16.8	61	27.2	15.2	T	6.7	SE	9	ESE	13	E	16	E	12	ACu; ASt; FrCu; Nb	10- 7	ACu; ASt; FrCu	6- 1	Few drops rain in am
6	741.8	13.0	40	23.2	13.6	T	11.1	E	6	ENE	6	SE	2	SSE	8		0		0	Smoky in pm
7	748.1	10.4	55	21.9	13.1		9.7	SSE	3	SE	4	SSE	4	SSE	1		0		0	Heavy smoke throughout day
8	744.4	10.3	55	21.1	12.9		11.3	ESE	3	E	10	ENE	8	ESE	4		0		0	Smoky in pm
9	741.7	15.6	34	25.0	16.3		11.3	E	1	NE	3	..	0	SSE	5		0		0	
10	738.8	18.1	27	28.1	13.4		11.5	..	0	..	0	WSW	8	SSE	4	CiSt	1- 3	CiSt	1- 3	Very smoky
11	740.9	20.7	71	26.1	13.5		6.3	..	0	SSE	9	S	11	SSE	14	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	
12	747.6	14.5	48	23.0	7.1		11.4	SE	8	E	16	E	12	ESE	4		0		0	
13	749.3	17.8	37	27.6	12.0		11.0	ENE	10	NE	14	ENE	13	E	6	CiSt; ASt	4- 6	CiSt; ASt	4- 6	
14	747.8	21.4	52	28.8	15.0		10.2	ENE	5	NE	14	ENE	11	E	5	CiSt; CiCu; ASt	7- 8	CiSt; CiCu; ASt	7- 8	
15	743.1	23.5	30	31.8	14.0		10.4	ENE	5	NE	11	NE	7	E	7	CiSt; CiCu	4- 6	CiSt; CiCu	4- 6	Cloudy at night, with thunder and lightning; possibly rain
16	742.5	17.1	76	19.9	17.0	0.05	0.0	ENE	2	E	5	ENE	8	NNE	7	ACu; ASt; CuNb; Nb	10	ACu; ASt; CuNb; Nb	10	Possibly rain in early hours; rain at intervals all day
17	739.8	20.0	74	26.7	13.2	0.24	9.9	..	0	W	4	WSW	12	SSW	4	Cu	3- 6	Cu	1- 3	
18	741.0	19.4	75	25.8	15.7		7.5	S	1	SE	3	SSE	5	S	8	ASt; Cu; CuNb	10- 7	ASt; Cu; CuNb	6- 1	Heavy dew early
19	741.9	20.1	69	27.7	14.4		10.2	SSE	4	ESE	4	SE	6	SSE	9		0		0	Heavy dew, and fog, early; small fires nearby
20	741.4	21.2	58	31.6	12.5		10.7	SSE	5	E	6	ESE	2	SSE	5		0		0	Dew early; hazy at 9h; smoky in evening
21	740.3	25.5	58	33.7	17.8		9.3	SE	3	NE	4	NE	1	ESE	6	ACu	1- 3	ACu	4- 6	Lightning in NE in evening
22	740.7	27.0	50	33.3	20.4		6.1	ENE	2	NNE	10	NE	5	ENE	4	CiCu; CiSt; ASt	4- 6	Cu; CuNb; Nb	7-10	Thunderstorm at 16h
23	740.4	23.6	64	30.2	18.5	0.11	9.2	ENE	2	ENE	9	E	11	E	9	ASt	1- 3		0	
24	742.1	21.4	60	27.8	16.5		10.8	E	5	E	13	E	17	E	5	ACu	1- 3		0	
25	744.3	19.1	49	26.6	13.6		10.9	E	8	ENE	14	E	13	E	7		0		0	
26	744.5	20.3	43	26.4	12.5		9.8	ENE	5	NE	10	ENE	13	ENE	5	CiSt	3- 6	CiSt	4- 6	
27	743.3	20.7	45	25.1	17.2		2.3	NE	6	NE	13	NE	12	ENE	4	CiSt; CiCu	7-10	CiSt; CiCu	7-10	
28	742.2	21.0	40	27.7	16.4		4.4	E	3	NE	14	NE	7	ESE	3	CiSt; CiCu	7- 8	CiSt; CiCu	7- 8	
29	739.8	25.2	34	31.1	15.5		9.8	NNE	2	N	9	NNE	4	SSE	2	CiSt; CiCu	1- 6	CiSt; CiCu	4- 6	
30	738.7	22.5	64	29.4	11.4		10.0	..	0	SE	1	SSE	2	SSE	7	CiCu; ACu	4- 6	CiCu; ACu	4- 6	Smoky in evening
31	741.3	20.0	61	30.6	14.5		9.3	SE	3	ENE	9	E	3	ESE	4		0		0	
SUM						0.40														
MEAN	742.1	21.1	52	28.9	14.4		9.2		4.2		8.8		8.0		6.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 255

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	146	117	114	108	109	103	[70	75	78	73	66	69	73	90]	119	125	96	100	114	113	104	98	95	99	98	0
2	✓	✓		105	[86	65	62	64	61	58	57	53	58	65	64	56	48	53	52	51	35	29	61]	93	93	93	[83]	64	0
3	✓	✓		[65	64	94	106	104	114]	129	129	135	117	123	133	128	117	109	[64	56	75	83	75	78	88	105	106]	100	0
4	✓	✓		119	140	171	185	202	239	216	189	210	216	221	210	[103	132	66	74	73	60	52	55	31	47	51	52]	130	0
5	✓			[49	62	98	95]	108	119	113	108	≷ 85	89	91≶	89	91	(91)	93	102	≷ 83	48	55≶	81	[78	84	110	106]	89	1
6	✓	✓		[110	137	139	150	149]	198	211	217	223	247	215	229	203	[143	110	83	34	39	44	62	66	46	27	23]	129	0
7				[26	26	26	20	25	21	20	23	36	43	48	48	43	52	31	23	13	18	26	23	20	23]	—	—		0
8				—	—	—	[86	91	84]	122	83	(94)	118	125	113	91	[86	76	56	43	34	52	60	47	40	53	64]		0
9	✓	✓		[61	78	103	137	185]	248	257	236	224	208	146	145	146	104	99	108	113	128	[65	30	21	36	42	52]	124	0
10	✓			[52	53	56	68	57	55	49	55	98	172]	209	194	182	173	155	[98	57	70	49	35	34	22	25	29]	85	0
11	✓			[27	27	27	34	49	52	52	68]	104	106	[113	71	57	74	55	91	89	88	88	58	100]	122	124	119	75	0
12	✓	✓		[103	89	78	78	78	90	84	71	91	109	95	76	71	(62)	60	65	46	52	62	58	53	44	47	57]	72	0
13	✓	✓		[95	104	104	113	134	140]	154	148	158	141	161	146	157	133	113	106	[58	74	64	49	38	49	47	91]	107	1
14	✓	✓		127	130	165	209	246	243	227	261	252	247	218	211	194	178	143	119	145	138	[99	76	62	61	65	93]	163	0
15	✓	✓		109	138	166	210	240	269	294	269	258	228	209	190	194	169	158	154	138	122	130	[119	88	85	94	96]	172	0
16				[115]	≷105	165	240	196	198	172	182	204	217	137	168	172	179	162	148	150	106	76	80	44	163≶	200	183		2
17	✓	✓		160	169	197	202	198	191	189	172	[95	88	105	109	113	114	125	128	120	89	74	115	115	112	105	108]	133	0
18	✓	✓	✓	[118	122	119	102	113	125]	134	138	109	129	125	127	124	124	124	117	117	[108	85	93]	133	140	140	120	120	0
19	✓	✓		129	117	130	127	[94	79	74	83]	114	138	127	110	106	112	(91)	124	128	125	[78	79	100	102	95	94]	106	0
20				—	—	—	—	—	—	—	—	[103	90]	119	112	135	151	158	144	128	113	[57	31	38	47	47	48]		0
21	✓	✓		[55	70	90	114]	158	209	257	263	282	258	246	240	203	194	197	188	146	106	118	[98	95	85	115]	138	164	0
22	✓			129	143	163	193	233	210	265	255	227	217	218	179	≷145	169	(188)	143	85	110≶	160	109	118	120	171	176	172	1
23	✓	✓	✓	183	168	207	237	259	252	217	240	261	257	248	222	187	158	158	145	150	177	163	132	90	124	144	177	190	0
24	✓	✓	✓	201	211	190	206	198	177	178	174	188	203	211	176	162	176	178	174	165	171	173	150	138	141	167	178	179	0
25	✓	✓	✓	208	231	239	207	206	224	243	246	231	228	229	216	191	152	139	127	115	117	119	93	91	128	115	108	175	0
26	✓	✓		151	179	202	230	254	258	284	308	298	236	215	187	176	(169	137)	128	110	[90	102	90	98	89	135]	180	179	0
27	✓	✓	✓	213	254	270	266	274	276	279	280	256	239	213	210	210	167	127	173	191	171	211	184	218	231	233	251	225	0
28	✓	✓	✓	259	249	260	310	342	342	325	317	282	244	230	211	173	168	183	179	179	[155	137	124	128	94	102	119]	213	0
29	✓	✓		[161	213]	296	307	308	314	293	279	242	215	201	185	189	174	182	156	149	138	177	190	[160	62	105	106]	200	0
30	✓	✓		[110	100	99	157]	187	182	231	226	194	172	172	143	106	100	123	93	88	95	114	[98	53	43	40	39]	124	0
31	✓	✓		[35	36	39	75]	103	124	133	140	174	176	177	187	165	140	135	144	138	133	129	108	103	137	124	134	125	0
MEANS * 27 DAYS				121	129	144	159	172	181	186	185	182	178	172	160	145	134	127	121	108	104	103	94	92	92	101	109	137	
MEANS † 23 DAYS				131	139	154	169	183	194	197	196	192	184	175	165	149	136	127	123	113	109	105	98	94	93	99	109	143	
MEANS ‡ 7 DAYS				190	193	200	205	214	214	207	210	201	196	189	176	160	148	147	149	145	143	143	127	129	137	142	150	171	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME) , MARCH 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	98	98	95	95	93	91	[68	70	69	58	54	57	65	78]	101	110	72	85	97	96	83	85	82	88	83	0
2	✓	✓		98	[78	56	55	50	49	47	47	60	54	56	55	46	44	52	52	47	38	34	60]	84	83	81	[59]	58	0
3	✓	✓		[49	58	84	92	94	97]	111	119	127	110	121	129	123	114	99	[56	55	69	73	59	48	59	72	77]	87	0
4	✓	✓		86	97	135	143	172	222	204	173	188	202	209	192	[97	127	66	66	59	53	46	47	29	43	43	43]	114	0
5	✓			[39	49	85	85]	98	111	110	108	≷93	87	80≶	77	86	85	(84)	88	≷85	48	55≶	82	[71	72	92	80]	81	1
6	✓	✓		[87	110	113	131	132]	166	176	194	202	234	200	217	186	[122	92	67	30	38	47	57	54	37	20	19]	114	0
7				[20	21	20	25	22	11	16	18	34	35	44	36	34	43	28	22	18	20	27	21	13	20	31]	——		0
8				[36	34	41	62	77	79]	114	77	(97)	119	121	110	88	[81	69	53	45	35	48	36	29	25	37	44]		0
9	✓	✓		[35	43	59	81	18]	194	201	214	196	192	121	129	126	86	80	81	100	100	[52	29	24	31	38	44]	95	0
10	✓			[45	44	28	40	44	34	36	35	67	151]	196	189	168	172	159	[93	49	60	39	22	19	15	13	15]	72	0
11	✓			[13	15	12	16	29	36	43	53]	95	99	[97	61	53	65	48	82	75	75	75	48	86]	101	105	100	62	0
12	✓	✓		[82	66	57	54	54	61	62	67	91	97	88	71	62	(53)	57	64	46	54	58	56	44	37	38	45]	61	0
13	✓	✓		[74	86	92	97	128	129]	139	129	149	135	154	136	159	125	113	106	[61	67	57	45	38	45	41	72]	99	1
14	✓	✓		104	104	142	196	230	228	215	253	250	243	221	224	197	181	140	106	140	139	[97	62	45	49	55	79]	154	0
15	✓	✓		88	114	138	183	218	236	261	251	262	228	199	180	189	163	142	147	122	105	111	[96	75	77	82	80]	156	0
16				[93]	≷114	186	233	204	169	162	203	287	261	194	165	178	——	——	——	123	138	159	151	164	132	142≶	127		2
17	✓	✓		99	123	147	158	155	163	158	142	[81	78	92	99	100	98	110	113	99	79	57	88	82	78	71	66]	106	0
18	✓	✓	✓	[73	85	86	67	78	91]	101	106	87	99	107	109	108	110	107	99	100	[87	66	70]	(87	102)	108	96	93	0
19	✓	✓		94	92	88	81	[67	56	49	57]	100	119	114	98	86	(85)	81	102	107	107	[67	70	84	82	71	67]	84	0
20				[58	66	58	45	52	52	47	67	84	84]	125	114	122	128	138	126	112	97	[46	29	35	38	35	37]		0
21	✓	✓		[41	45	56	85	118]	162	218	244	280	255	226	221	189	177	173	170	129	92	106	[81	75	68	91]	110	142	0
22	✓			102	113	133	162	194	186	223	222	203	204	196	164≶	128	161	(164)	154	140	111≶	142	97	100	101	138	139	153	1
23	✓	✓	✓	147	142	180	200	213	214	203	222	247	241	237	214	177	151	146	136	140	160	152	123	83	111	123	152	171	0
24	✓	✓	✓	181	183	167	185	172	159	152	163	178	196	205	172	153	166	170	172	159	154	158	135	118	120	142	156	165	0
25	✓	✓	✓	195	216	218	182	186	208	226	227	218	221	220	218	194	150	128	119	112	111	110	83	75	105	95	94	165	0
26	✓	✓		126	156	170	196	214	236	260	291	293	230	214	180	167	159	(133)	119	104	[86	85	70	78	62	99]	155	162	0
27	✓	✓	✓	189	221	230	230	233	231	230	240	237	231	202	205	200	148	119	165	175	151	180	153	175	188	188	208	197	0
28	✓	✓	✓	220	218	227	277	312	310	291	292	283	240	218	199	166	159	169	166	168	[140	114	99	91	70	71	83]	191	0
29	✓	✓		[115	175]	251	270	266	277	244	241	223	200	188	176	174	161	162	134	126	111	147	162	[137	44	68	82]	172	0
30	✓	✓		[93	73	80	136]	158	160	185	179	166	162	154	128	93	87	112	81	77	84	99	[87	48	40	41	35]	107	0
31	✓	✓		[30	29	34	57]	93	110	122	135	163	172	164	179	161	127	120	131	120	112	109	88	75	99	89	107	109	0
MEANS * 27 DAYS				96	105	117	132	141	156	161	166	171	168	160	151	135	124	116	110	100	93	90	80	74	74	80	87	120	
MEANS † 23 DAYS				105	114	126	141	150	167	171	176	180	174	164	156	140	125	116	111	102	97	92	84	75	75	79	88	126	
MEANS ‡ 7 DAYS				158	166	172	177	184	186	182	189	188	184	178	168	152	137	134	138	132	127	125	108	102	112	115	125	152	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1929

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	121	111	96	96	84	75	72	73	70	69	60	63	67	70	69	78	81	88	73	64	82	81	89	86	80	0
2	✓	✓		78	92	81	67	53	61	46	52	56	56	57	60	55	43	63	64	64	⌈100	163	209	225	210	116	N 93⌋	90	1
3	✓	✓	✓	⌈101	128	125⌋	63	46	40	37	40	48	50	48	55	71	74	81	91	77	86	70	80	97	108	120	117	77	0
4	✓	✓	✓	108	99	102	101	98	87	69	71	73	92	87	86	77	78	88	94	110	⌈117	151	121	112⌋	84	68	86	94	0
5	✓	✓		98	73	78	113	108	82	74	73	113	113	99	107	103	103	113	120	133	⌈130	109	182⌋	111	124	118	111	108	0
6	✓	✓		96	92	⌈92	187	168	135	122	115⌋	90	86	102	105	106	116	116	115	117	124	109	86	91	122	143	108	114	0
7	✓	✓	✓	100	95	74	68	73	48	51	61	82	95	99	96	107	99	121	101	95	96	107	101	101	100	86	87	89	0
8	✓	✓	✓	63	53	50	45	44	38	38	46	63	73	75	72	65	95	77	98	88	79	83	90	75	75	76	73	68	0
9	✓	✓		N 71	70	84	68	70⟩	69	51	55	49	67	59	70	73	76	79	76	86	76	72	68	81	87	79	63	71	1
10	✓	✓	✓	⌈82	88	78	96	98	81	71⌋	64	81	90	93	96	95	94	87	103	94	90	59	86	114	143	125	108	92	0
11	✓	✓		117	143	134	112	103	93	78	76	63	63	53	67	78	89	94	93	94	⌈109	91	109	154	188	180	164⌋	106	0
12	✓	✓		129	118	145	146	139	121	103	110	117	118	118	101	92	98	99	107	98	⌈129	136	154	146	157	177	156⌋	126	0
13	✓			⌈144⌋	84	82	81	69	83	84	86	93	102	110	91	96	89	76	90	90	⌈110	148	102	68	148	177	191⌋	104	0
14	✓			⌈168	122	134	147	108	121	126	119⌋	75	75	67	65	67	70	79	80	77	65	69	97	105	113	87	65	96	0
15	✓	✓		78	84	68	67	63	61	50	55	48	46	67	88	101	96	97	96	97	105	102	⌈203	194	171	117	126⌋	95	0
16	✓	✓		⌈109	161	315	87	385	382	307	234	156⌋	68	86	105	86	87	81	⌈115	125	97⌋	87	87⟩	⟨48	43	68⟩	93	142	0
17	✓	✓	✓	87	54	81	98	75	73	68	65	95	89	89	⌈96	69	89	102⌋	102	100	102	107	108	98	109	113	95	90	0
18	✓	✓	✓	114	105	111	125	100	97	81	79	82	87	108	115	119	120	118	112	111	110	84	⌈108	134	152	132	136⌋	110	0
19	✓	✓		⌈145	140⌋	119	109	94	89	83	69	60	58	61	61	60	67	78	75	79	80	⌈119	170	138	151	164	167⌋	102	0
20	✓	✓		⌈168	157	156	150⌋	138	132	122	116	110	118	129	115	112	106	97	99	93	⌈105	132	119	126	136	137	178⌋	127	0
21	✓	✓		⌈168	166	148	130⌋	105	93	87	89	86	80	80	84	92	90	106	105	100	105	98	97	93	91	97	90	103	0
22	✓	✓	✓	87	81	69	61	55	54	50	48	52	61	67	70	81	⌈77	95	102	90	67	138	90	125	90⌋	96	92	79	0
23	✓	✓		84	86	73	80	67	60	58	63	49	54	65	73	75	⌈93	113	132	130	89⌋	80	76	⌈81	143	169	194⌋	91	0
24	✓	✓		⌈201	199	194	154	135	110	108⌋	96	80	88	93	102	106	101	108	116	119	112	114	112	⌈139	147	148	115⌋	125	0
25	✓	✓	✓	101	88	84	84	77	64	62	60	65	64	61	64	73	77	77	93	90	63	40	45	70	80	78	61	72	0
26	✓			58	57	53	52	44	41	39	43	42	45	N 46	63	70	75	96	108	97	101	98	84	75	83	80	82	68	1
27	✓			82	73	58	63	48	42	39	37	64	77	87	80	86	89	93	87	95	114	88	91	93	107	140	133	82	0
28	✓	✓		105	133	121	117	93	90	95	73	67	87	71	68	73	77	81	80	84	74	56	95	⌈163	289	309	232⌋	114	0
29	✓			⌈199	140	121	91⌋	73	69	55	52	43	39	37	38	45	46	50	55	51	⌈55	86	81⌋	61	79	90	84	72	0
30	✓			86	82	71	45	55	49	46	44	55	58	63	64	62	64	62	73	80	80	76	95	64	78	61	57	65	0
31																													
MEANS ✱ 30 DAYS				112	106	107	97	96	88	79	75	74	76	78	81	82	85	90	95	95	95	98	107	109	123	121	115	96	
MEANS † 24 DAYS				109	109	112	101	103	93	83	78	77	78	80	84	85	88	93	99	98	97	99	111	117	128	125	118	99	
MEANS ‡ 10 DAYS				96	90	87	84	75	66	60	61	71	77	79	81	82	87	92	97	94	90	91	89	101	102	98	94	86	

DESIGNATIONS AND REMARKS:

✱=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⟨⟩=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 258

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	742.5	22.1	43	32.2	16.0		9.4	E	7	E	7	N	2	ESE	4	CiCu	1- 3	CiCu	4- 6	
2	742.4	25.0	42	32.4	16.9		9.6	NE	7	NNE	11	N	3	..	0		0		0	Few ACu clouds in evening; fire in SW in evening
3	739.4	24.6	24	28.5	15.3		9.7	..	0	S	7	SSW	10	S	7	CiSt; ACu; StCu	2- 6	CiSt; ACu; StCu	7- 8	
4	742.5	16.6	63	21.3	9.1		2.9	SSW	2	..	0	SE	8	S	3	ACu; StCu	7-10	ACu; StCu	7- 8	Dew early; somewhat smoky during day
5	742.7	17.0	61	24.3	7.6		10.4	SSE	1	E	2	SSW	1	SSE	4	ASt	0- 1		0	Fog early; smoky during day
6	741.0	18.0	65	25.1	9.4		10.0	SSE	2	SE	2	S	2	S	4	ACu; FrCu	1- 3		4- 6	Dew early
7	740.7	17.1	66	21.8	9.3		5.9	..	0	SW	4	SSW	9	SW	2	ACu; FrCu; StCu	10- 7		6- 4	Dew early
8	742.5	18.5	61	23.4	8.2		2.7	NW	1	WNW	4	SW	8	SW	2	ACu; ASt	4- 7	ACu; ASt	4- 6	Clear in evening
9	742.9	19.5	70	24.1	9.1		3.7	..	0	NW	1	SW	10	SW	2	CiSt; ACu; ASt; Cu	6-10		7-10	Dew early; cloudy in evening
10	744.0	17.1	77	21.8	11.7	0.02	8.3	..	0	ESE	6	SE	3	SE	6	Cu	7- 8	Cu	6- 4	Light rain or heavy dew in early hours
11	742.1	16.5	41	27.4	6.3		9.8	SSE	2	E	3	SW	1	S	4	Ci; CiCu	2- 6	Ci; CiCu	1- 3	
12	741.7	17.6	66	25.1	9.8		8.4	S	3	SE	3	S	9	S	2	Ci; CiSt; CiCu	7- 8	Ci; CiSt; CiCu	6- 1	
13	743.5	18.7	66	27.3	10.8		10.3	SE	1	ENE	3	WSW	1	S	3		0		0	Dew early
14	743.0	18.3	65	28.4	6.0		10.4	S	1	..	0	NW	1	SSE	1	CiCu; CiSt	4- 7	CiCu; CiSt	1- 3	Dew early
15	741.6	24.4	33	33.4	9.5		10.6	..	0	NW	1	W	15	WSW	1		0		0	Dew early
16	743.4	19.3	89	27.3	13.7		7.3	W	1	NW	3	WSW	..	SW	2	CiCu; FrCu; StCu	7-10	FrCu; StCu; CuNb	7- 8	Fog until 8h; light rain in evening
17	743.7	18.5	56	22.3	13.8	T	6.0	SSW	2	SSW	1	SSW	14	SE	8	CiSt; ACu; ASt	7-10	ACu; ASt; StCu	7-10	Light shower at 21h
18	746.8	12.6	55	20.2	5.5	T	10.3	SE	4	E	11	E	9	ESE	4	CiSt	1- 3		0	Dew early
19	745.4	17.2	34	26.2	3.5		10.0	SE	3	E	2	E	2	SSE	7		0		0	
20	746.2	16.2	49	24.7	7.9		10.0	SSE	6	SE	12	SE	8	SSE	7	CiSt	1- 3		0	
21	747.1	14.5	59	23.9	10.0		9.8	E	8	ENE	13	E	11	ESE	4		0		0	
22	745.3	19.1	43	30.7	8.2		10.1	ESE	3	ENE	4	NE	3	ESE	3		0		0	Fires in distant E in pm
23	741.5	20.0	47	27.5	8.8		5.4	E	1	..	0	S	6	S	5	Ci; CiCu; ASt	1- 8	Ci; CiCu; ASt	1- 3	
24	743.7	14.6	68	22.2	10.0		8.7	SSE	2	E	11	ESE	6	ESE	4	Ci; CiSt; CiCu	3- 8		1- 3	Dew early
25	743.1	17.0	51	25.6	9.2		9.2	SE	3	NE	5	N	2	..	0	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
26	740.7	18.0	45	26.6	11.0		3.8	NW	1	NW	2	WSW	11	SW	1	Ci; CiSt; CiCu	10- 7	Ci; CiSt; CiCu; ACu	6- 1	
27	744.5	17.7	69	22.2	12.5		6.9	..	0	S	4	ESE	5	S	3	Ci; ACu; Cu	7- 8	Ci; ACu; Cu	6- 1	Dew early
28	745.8	15.4	64	23.8	4.5		9.7	SSE	3	ENE	3	ESE	1	SE	3	CiSt	1- 3	CiSt	1- 3	Dew early; thin haze over sky
29	743.1	18.5	42	30.0	7.7		4.8	SSE	2	SSE	1	..	0	SSE	1	CiSt; CiCu; ASt	6- 8	CiSt; CiCu; ASt	7- 8	
30	739.4	18.9	51	28.7	12.9		2.5	..	0	..	0	WSW	4	..	0	CiCu; CiSt; ACu	7-10	CiCu; CiSt; ACu; ASt	7- 8	
31																				
SUM						0.02														
MEAN	743.1	18.3	56	26.0	9.9		7.9		2.2		4.2		5.7		3.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 259

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	151	163	169	179	209	230	239	255	264	272	265	256	248	176	152	127	113	133	149	143	125	125	139	138	184	0
2	✓	✓		183	196	221	244	260	251	263	249	229	206	187	171	162	167	[144	(83)	100	98	23	20	26	69	133	120]	159	1
3	✓	✓	✓	[90	96	114]	214	270	286	316	312	273	231	235	222	158	148	114	124	115	151	154	152	156	165	165	160	184	0
4	✓	✓	✓	167	176	182	176	176	177	215	211	194	177	144	139	149	150	155	135	122	[123	81	115	127]	169	176	155	158	0
5	✓	✓		130	137	140	115	120	120	120	128	88	93	100	102	100	108	100	98	103	[85	105	61]	102	103	130	137	109	0
6	✓	✓		150	151	[141	80	93	114	124	139]	163	177	152	124	125	117	103	91	93	105	117	162	179	133	135	160	130	0
7	✓	✓	✓	179	207	247	268	275	264	284	285	222	171	168	160	140	162	157	156	163	162	163	171	188	201	224	236	202	0
8	✓	✓	✓	272	330	363	401	427	460	429	382	268	226	193	177	169	162	156	157	165	166	163	174	182	189	191	210	250	0
9	✓	✓		≷198	226	231	246	248≷	247	289	303	317	215	194	191	187	(187	179)	176	179	179	179	193	182	196	203	222	215	1
10	✓	✓	✓	[194	188	196	158	195	217	231	248]	231	174	132	123	115	113	119	119	127	105	133	137	109	98	110	120	154	0
11	✓	✓		112	109	123	151	169	179	196	217	255	288	310	286	244	215	211	202	202	[160	143	110	91	76	98	117]	178	0
12	✓	✓		134	145	144	141	150	158	161	160	138	133	137	140	155	145	141	156	166	[139	118	119	146	141	125	143]	143	0
13				[149]	201	200	213	216	179	197	213	184	162	161	169	180	183	188	185	172	[127	83	143	148	110	106]	—		0
14				—	—	—	—	—	—	[128	151]	201	193	202	202	191	182	179	172	177	189	187	178	160	146	165	203		0
15	✓	✓		204	196	215	228	251	236	280	301	365	383	287	198	176	152	148	151	154	157	163	[71	89	110	128	160]	200	0
16	✓	✓		[180	133	91	148	55	48	57	71	124]	190	160	149	141	132	(124)	[89	55	100]	119	118	≷184	239	200≷	189	129	0
17	✓	✓	✓	177	187	193	189	187	198	210	220	198	163	163	[162	118	96	140]	174	174	171	168	160	162	166	160	182	172	0
18	✓	✓	✓	168	198	191	167	162	161	194	206	217	189	144	132	114	94	104	119	120	114	129	[114	88	78	90	115]	142	0
19	✓	✓		[114	124]	158	167	188	189	200	242	293	296	270	251	235	214	211	197	190	171	[118	68	114	127	124	127]	183	0
20	✓	✓		[134	135	135	135]	146	154	160	163	162	134	106	112	117	125	152	151	158	[129	79	79	96	103	105	99]	128	0
21	✓	✓		[94	90	118	151]	191	207	221	227	229	244	242	221	204	188	177	180	174	165	154	146	166	184	200	216	183	0
22	✓	✓	✓	224	254	286	314	341	357	372	387	380	303	258	214	187	[182	78	66	154	157	156	194	134	152]	168	198	230	0
23	✓	✓		204	217	243	251	269	258	243	316	361	324	300	264	230	[140	88	109	90	169]	194	206	[185	104	76	69]	205	0
24	✓	✓		[70	73	81	102	129	150	163]	182	200	196	177	150	118	118	124	117	105	114	106	112	[91	98	105	129]	125	0
25	✓	✓	✓	165	190	200	206	229	237	248	286	298	275	259	263	236	217	206	210	197	198	194	(224	182	173	209)	236	222	0
26				252	300	324	334	350	381	394	376	371	359	328	252	216	210	174	149	145	149	154	173	189	190	201	180		1
27				213	214	246	265	304	338	365	334	252	204	179	174	169	163	162	167	160	122	161	(118	168)	173	141	125		0
28	✓	✓		138	110	127	132	148	133	152	201	226	185	218	198	190	169	156	157	174	169	162	94	[88	44	49	62]	145	0
29				[85	118	145	184]	228	229	259	284	355	369	374	352	295	282	270	255	247	[229	120	140]	188	182	161	155		0
30				163	165	196	252	248	243	252	272	255	243	236	216	223	226	(211)	197	197	183	187	171	213	191	—	—		0
31																													
MEANS * 24 DAYS				160	168	180	190	204	210	224	237	237	219	200	184	167	153	143	139	141	142	136	131	133	135	143	154	172	
MEANS † 24 DAYS				160	168	180	190	204	210	224	237	237	219	200	184	167	153	143	139	141	142	136	131	133	135	143	154	172	
MEANS ‡ 10 DAYS				179	199	214	227	247	259	274	279	254	218	196	185	163	150	138	139	145	148	149	158	145	152	163	175	190	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	118	129	142	158	181	211	219	226	248	257	252	231	218	156	128	113	90	105	114	107	82	92	107	111	158	0
2	✓	✓		152	165	169	209	210	212	223	214	205	187	168	146	146	152	⌈112	74	96	86	23	18	24	46	92	92⌋	135	1
3	✓	✓	✓	⌈ 66	63	88⌋	182	241	257	282	284	256	224	239	226	149	136	105	112	105	122	131	126	119	105	95	101	159	0
4	✓	✓	✓	107	124	128	125	126	136	151	174	148	149	123	119	138	129	134	113	99	⌈ 95	57	76	89⌋	124	142	125	122	0
5	✓	✓		95	114	123	90	94	103	103	106	72	75	76	81	75	79	79	73	73	⌈ 66	82	43⌋	81	77	94	90	85	0
6	✓	✓		108	108	⌈111	53	63	82	92	106⌋	135	149	126	95	96	92	81	75	75	84	89	126	129	94	78	106	98	0
7	✓	✓	✓	127	156	189	223	227	232	263	245	191	154	152	144	121	141	138	134	130	121	114	102	112	129	157	174	162	0
8	✓	✓	✓	196	276	331	367	399	437	411	369	256	217	188	160	164	148	140	131	132	137	118	117	130	137	146	163	220	0
9	✓	✓		≷149	188	180	212	181≷	194	237	273	297	197	176	176	175	157	161	157	144	140	140	141	124	124	139	172	176	1
10	✓	✓	✓	⌈132	135	145	114	131	164	170	185⌋	178	154	121	111	105	98	98	98	101	88	106	108	87	69	76	90	119	0
11	✓	✓		89	81	95	121	147	149	165	189	235	256	285	252	211	185	175	168	167	⌈127	121	93	71	54	61	74⌋	149	0
12	✓	✓		92	103	102	103	106	117	125	119	116	108	113	121	140	130	125	140	149	⌈107	82	74	(94)	93	84	96⌋	110	0
13				—	—	—	—	—	—	—	—	—	143	127	143	142	161	167	159	146	⌈ 99	58	114	122	71	64	58⌋		0
14				⌈ 65	107	100	85	87	83	76	87⌋	158	165	182	174	163	158	147	148	155	146	149	135	107	105	134	175		0
15	✓	✓		174	156	159	203	236	197	271	275	362	381	277	192	165	155	148	151	151	144	138	⌈ 60	56	57	83	102⌋	179	0
16	✓	✓		⌈122	104	55	104	34	32	40	42	63⌋	129	140	135	134	128	127	⌈ 81	64	107⌋	125	129	141	146	143	132	102	0
17	✓	✓	✓	127	120	122	119	117	141	(140	140	139)	138	141	⌈136	107	83	120⌋	139	141	131	123	131	126	117	103	105	125	0
18	✓	✓	✓	105	131	131	112	111	123	151	170	196	180	132	119	101	91	95	105	103	99	107	⌈ 78	64	50	61	74⌋	112	0
19	✓	✓		⌈ 85	89⌋	120	142	157	163	176	212	267	284	266	240	226	200	192	175	164	137	⌈ 95	63	94	102	91	90⌋	160	0
20	✓	✓		⌈ 94	105	107	109⌋	120	117	130	140	146	124	94	96	104	106	134	140	145	⌈109	65	71	77	74	72	68⌋	106	0
21	✓	✓		⌈ 74	70	94	126⌋	174	187	197	200	209	226	225	208	191	171	158	164	156	145	125	113	119	139	157	155	158	0
22	✓	✓	✓	183	217	250	278	294	319	350	354	374	302	251	202	160	⌈163	64	51	120	125	94	134	95	110⌋	125	140	198	0
23	✓	✓		167	174	191	208	236	235	230	266	327	306	273	242	209	⌈117	74	75	74	139⌋	160	175	⌈157	84	57	48⌋	176	0
24	✓	✓		⌈ 47	53	53	66	83	102	120⌋	157	178	174	151	131	106	104	99	92	83	86	78	83	⌈ 64	65	73	98⌋	98	0
25	✓	✓	✓	131	140	148	161	183	203	211	250	269	259	250	252	213	197	189	172	162	160	163	195	147	138	169	189	190	0
26				212	273	308	321	339	365	380	356	364	356	326	242	214	208	160	131	128	122	120	124	140	—	—	—		1
27				—	—	—	—	—	—	—	—	—	—	153	152	151	148	148	142	128	93	120	102	127	116	87	78		0
28	✓	✓		100	98	96	99	108	122	125	186	194	163	204	185	180	146	136	138	144	136	146	92	⌈ 65	31	33	43⌋	124	0
29				⌈ 57	103	134	178⌋	—	—	—	—	—	342	354	332	276	258	240	232	226	⌈204	105	116⌋	148	146	123	127		0
30				132	137	158	211	219	200	215	236	228	207	200	200	213	215	(195)	185	180	159	151	128	135	147	176	190		0
31																													
MEANS * 24 DAYS				118	129	140	154	165	176	191	203	211	200	184	167	151	136	126	120	120	116	108	102	98	94	102	110	143	
MEANS † 24 DAYS				118	129	140	154	165	176	191	203	211	200	184	167	151	136	126	120	120	116	108	102	98	94	102	110	143	
MEANS ‡ 10 DAYS				129	149	167	184	201	222	235	240	226	203	185	170	148	134	121	117	118	118	113	117	105	107	118	127	156	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 261

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				58	49	39	44	37	91	125	101	48	43	48	55	67	89	N 96	Z	63	82	82	68	65	73	87	78		1
2				76	68	76	82	91	82	82	86	Z	Z	Z	Z	Z+	Z	Z	Z+	Z	Z	Z	Z+	Z+	Z+	Z+	Z+		2
3				Z+	Z+	Z+	Z	70	98	90	101	113	95	99	97	107	109	101	106	106	102	84	79	79	76	80	81		1
4				90	84	61	58	61	52	48	55	71	Z	Z	Z	Z	100	103	88	83	88	78	83	77	67	71	62		1
5	✓			58	49	49	48	37	61	52	40	48	53	58	61	61	64	73	86	81	62	45	67	80	76	67	63	60	0
6				72	67	60	52	52	51	49	53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		–
7				—	—	—	—	—	—	—	—	—	N 5	N 8	67	N 57	68	71	70	65	58	[45	87	62]	56	72	54		1
8	✓	✓		43	46	52	39	34	29	32	34	43	50	50	52	46	49	55	58	55	45	30	N 32	31	51	74	70	46	1
9				67	62	59	55	51	44	43	39	41	50	53	52	55	54	58	72	Z-	Z+	Z	Z+	Z	Z	N 46	Z		2
10				Z+	Z-	95	81	67	63	70	68	94	Z+	Z+	80	80	63	62	61	64	65	61	56	51	N 33	N 40	N 64		1
11	✓			76	N 71	80	75	73	58	48	45	61	74	76	76	44	63	79	78	69	68	61	67	50	48	49	64	65	1
12	✓			59	52	58	61	53	55	58	54	54	54	56	59	61	68	72	71	70	57	40	48	48	38	41	52	56	0
13	✓			55	53	39	40	39	34	31	23	26	25	30	33	40	52	61	67	62	44	38	33	39	42	50	45	42	0
14	✓	✓	✓	40	44	42	42	41	35	39	39	44	50	67	74	72	71	79	78	80	72	72	71	73	61	54	45	58	0
15				43	60	75	73	84	N 41	Z	Z	Z	Z	Z+	N 55	103	84	82	45	68	64	61	54	50	58	46	45		1
16	✓	✓		48	51	61	55	N 48	48	44	54	87	78	N 87	75	79	N 78	79	69	68	65	56	48	60	45	48	54	62	1
17	✓			55	53	49	38	39	38	33	35	38	51	52	56	58	58	49	50	48	49	50	43	43	38	37	36	46	0
18	✓	✓	✓	35	35	36	35	24	26	31	30	31	35	35	32	45	51	53	55	59	48	35	50	52	71	70	97	45	0
19				N 63	118	Z	Z	102	96	103	105	112	100	81	70	70	70	72	79	78	69	64	68	86	90	76	86		1
20	✓	✓	✓	76	76	90	86	87	83	78	81	72	88	65	69	67	63	65	70	69	68	63	64	67	62	69	62	72	0
21	✓	✓	✓	65	89	68	68	70	84	70	63	71	79	79	77	81	78	71	82	74	64	52	82	89	103	78	81	76	0
22	✓	✓	✓	70	71	84	62	56	62	52	46	58	59	57	55	60	58	64	64	58	50	49	44	36	40	52	69	57	0
23	✓	✓	✓	51	45	50	39	46	43	51	51	57	57	65	65	73	59	57	63	64	36	34	36	36	39	41	39	50	0
24	✓	✓		38	36	40	41	36	36	36	38	43	58	51	44	49	58	61	64	55	36	27	40	41	30	N 1	N 4	40	1
25				Z+	N 7	N 67	N 67	130	130	88	88	115	100	Z	Z	Z+	91	82	97	97	97	99	82	89	74	73	75		1
26	✓	✓		76	88	121	134	138	122	63	73	115	110	88	N 63	N 54	89	N 91	N 96	99	90	95	101	88	88	77	62	93	1
27	✓	✓		79	95	114	119	134	[128	92	100	154	165	87]	N 58	71	71	67	76	69	78	74	67	55	77	83	70	91	1
28	✓	✓	✓	64	90	117	118	109	101	98	91	79	82	71	62	59	59	63	77	68	69	[78	109	99	106	67]	61	83	0
29	✓	✓		62	68	88	82	76	86	82	70	63	67	63	70	80	94	98	90	[76	63	76	90	93]	[170	130	122]	86	0
30	✓	✓		118	102	84	95	88	74	63	61	63	59	50	56	54	41	N 39	38	36	36	-27	63	128	112	76	55	65	1
31				60	N 32	58	65	N 65	44	44	36	Z	Z	Z	N 18	Z	Z	90	70	71	45	51	N 27	Z	Z	30	62		1
MEANS * 19 DAYS				61	64	70	67	65	63	55	54	64	68	62	60	61	64	67	70	66	58	50	61	64	68	61	61	63	
MEANS † 14 DAYS				62	67	75	72	70	68	59	59	70	74	65	61	64	66	67	70	66	59	51	64	68	75	66	64	66	
MEANS ‡ 7 DAYS				57	64	70	64	62	62	60	57	59	64	63	62	65	63	65	70	67	58	55	65	65	69	62	65	63	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 262

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	737.1	19.0	85	24.5	13.9	T	0.4	NNW	1	NNW	4	SW	13	NW	2	CiCu; CiSt; ACu	7-10	ASt; StCu; Nb	7-10	Heavy fog early; few drops rain pm and eve.; lightning in NE
2	734.0	18.0	94	20.6	14.6	0.01	0.8	NW	2	NW	8	WNW	7	WNW	4	StCu; CuNb	10	StCu; CuNb	10	Rain in early hours and through day and at night
3	739.2	16.0	61	18.8	13.5	0.87	5.8	WSW	6	SSW	5	SW	12	..	..	ACu; ASt; FrCu	1- 3	ACu; ASt; FrCu	4- 6	
4	742.3	14.5	84	18.7	8.9	T	3.0	NNW	1	W	5	SSW	12	SSW	1	StCu; Nb	7-10	Cu; StCu; Nb	7- 8	Rain during morning
5	745.6	13.5	84	18.5	5.3	0.27	8.1	..	0	..	0	ESE	3	E	1	ACu	6- 8	ACu	6- 1	Heavy dew
6	745.2	14.6	56	20.8	5.8	T	7.4	ESE	2	ENE	3	NNE	2	ESE	3	Ci; CiSt; CiCu	7- 8	Ci; CiSt; CiCu	4- 6	Dew early
7	743.4	13.8	60	23.3	9.7		5.2	ENE	1	NNE	2	NE	7	E	2	ACu; StCu; CuNb	10- 7	ACu	6- 1	Light rain in am
8	742.2	18.0	41	25.8	10.0		9.0	E	2	NNE	3	NNE	4	..	0	ACu	1- 3	ACu	1- 3	
9	737.7	19.3	51	23.5	16.5		0.0	NNE	6	N	8	W	7	SW	7	ACu; ASt; Cu	10	Cu; CuNb	10	Heavy rains in late pm
10	736.7	15.0	75	18.5	12.6	0.56	4.1	SW	5	WSW	7	SW	13	W	4	ACu; Cu; CuNb	7-10	ACu; Cu; CuNb	7- 8	Rains in am; rain at night
11	740.3	14.2	74	16.6	10.7	0.19	1.7	SW	3	..	0	SSW	4	..	0	ACu; ASt	1-10	ACu; ASt	4- 6	
12	743.2	14.6	69	19.4	8.2		4.9	..	0	NNW	1	WSW	5	SW	1	CiSt; CiCu; ASt	1- 3	Cu; StCu	4- 8	Dew early
13	743.2	11.1	95	18.5	7.1		0.5	N	1	NW	1	N	2	..	0	ACu; ASt; StCu	7-10	ACu; ASt; StCu	7-10	Dew early
14	737.9	15.5	71	23.7	8.0		2.4	..	0	NW	4	NW	10	NW	3	ASt; ACu	7-10	ASt; ACu	7-10	Dew early; rain at night
15	733.0	16.2	96	18.4	13.3	0.59	0.0	NW	6	NW	7	W	8	NNW	1	ACu; Cu; Nb	10	ACu; Cu; Nb	10	Rain throughout day
16	738.6	14.6	86	18.9	11.0	0.08	4.3	N	2	WSW	2	SW	16	SW	2	ACu; ASt; StCu; CuNb	7-10	ACu; StCu; CuNb	7-10	Few light showers during day; clearing at night
17	744.8	13.7	79	18.0	7.8	0.01	3.0	..	0	..	0	NW	..	..	0	Cu; ACu; ASt	7-10	ACu; ASt; Cu	7-10	
18	743.2	13.3	75	18.9	9.6		1.2	..	0	..	0	NW	6	W	4	ACu; ASt; StCu	10	ACu; ASt; StCu	10	Light rain in evening
19	743.8	14.5	70	17.2	9.3	0.16	3.7	WSW	5	WNW	1	WSW	16	W	8	ASt; Cu; StCu	1- 6	Cu; StCu; CuNb	7-10	Light rain in evening
20	744.5	13.7	77	16.6	11.3	0.05	2.8	SW	11	SW	10	SSW	13	SW	2	CiSt; Cu; StCu; CuNb	3- 6	CiSt; Cu; StCu; CuNb	7-10	Light rain in pm
21	749.2	11.0	82	15.2	7.3	0.05	8.6	SSE	1	E	4	E	4	ESE	2	CiCu; Cu	1- 3	CiCu; Cu	1- 3	Fog early; clear at night
22	750.5	10.4	70	15.6	6.6		1.6	E	2	NE	3	NE	7	ENE	1	CiSt; CiCu; Cu; CuNb	4- 9	CiSt; CiCu; Cu; CuNb	1- 3	Dew early; clear in evening
23	747.6	13.0	62	19.9	4.4		8.0	..	0	NNE	2	N	3	..	0	CiSt; ASt	1- 3	CiSt	1- 3	Dew early
24	744.5	13.9	62	22.9	4.3		6.8	..	0	..	0	N	5	NNW	1	CiSt; ASt	1- 6	ASt; StCu; Cu	7-10	Rain at night
25	738.2	15.7	83	17.2	12.5	0.18	3.4	NNW	4	..	..	WSW	10	WSW	3	Cu; StCu; CuNb	3-10	Cu; StCu; CuNb	10	Rain in am and evening
26	738.5	13.3	90	17.4	7.8	0.22	1.8	WNW	3	WSW	13	SW	12	WSW	2	Cu; CuNb	9-10	Cu; StCu; CuNb	10	Rain throughout day
27	742.4	13.0	96	18.1	9.2	0.13	2.0	W	1	..	0	ESE	2	..	0	Cu; StCu; CuNb	10	Cu; StCu; CuNb	10	Fog early; clear in evening; few drops rain during day
28	744.0	11.3	95	16.6	9.1	0.04	1.2	..	0	..	0	ENE	4	ESE	1	ASt; Cu; StCu	4-10	CiSt; Cu	4-10	
29	743.5	11.0	88	19.4	5.7		8.2	..	0	NE	1	ENE	4	ESE	2	CiSt; Cu; StCu	1- 6	CiSt; Cu; StCu	4- 6	Dew early
30	741.0	13.0	86	17.5	9.5		0.0	..	0	ESE	2	NE	4	NE	7	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Dew early; rain in pm and evening
31	732.3	13.7	96	20.8	12.7	0.16	1.4	NE	7	NE	3	WNW	11	WNW	2	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Rain in am and pm
SUM						3.57														
MEAN	741.5	14.3	77	19.4	9.6		3.6		2.3		3.3		7.5		2.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	—	233	201	183	183	166	170	168	—	—	—	—	—	247	238	—		1
2				—	—	—	—	—	—	—	—	—	151	129	61	175	149	127	166	112	159	151	156	162	165	159	162		2
3				152	133	149	134	149	145	147	155	162	165	163	158	158	159	162	162	162	—	—	—	—	227	238	245		1
4				240	235	290	312	295	321	351	307	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
5				—	—	—	—	—	—	—	—	—	248	193	186	188	162	150	150	169	222	261	255	222	229	260	271		0
6	✓			266	290	305	320	331	323	322	330	311	292	241	225	212	199	194	193	193	208	218	175	97	103	150	158	236	–
7				—	—	—	—	—	—	—	—	—	271	252	248	242	(228)	220	211	211	215	224	112	196	218	214	250		1
8	✓	✓		298	310	307	320	345	353	338	348	304	256	226	222	216	219	205	212	209	213	229	258	292	282	258	246	269	1
9	✓			256	269	287	294	300	290	276	301	305	292	287	281	285	246	221	213	96	182	133	186	101	171	183	108	232	2
10	✓			143	102	157	157	156	162	165	161	159	158	163	170	176	169	174	175	171	168	171	170	179	174	179	168	164	1
11				182	177	—	—	—	—	—	—	—	200	183	177	173	175	180	175	186	187	191	195	216	227	241	224		1
12				248	245	245	241	—	—	—	—	—	271	268	238	215	199	191	192	188	195	202	204	227	245	247	228		0
13				211	226	289	322	330	342	357	378	404	417	408	378	336	267	222	194	194	215	222	278	286	264	255	268		0
14	✓	✓	✓	284	289	298	327	331	353	376	409	381	334	269	224	214	199	(183)	187	186	186	177	193	202	232	259	263	265	0
15	✓			242	232	225	206	193	186	120	62	129	137	161	155	175	173	171	166	174	179	183	193	212	218	257	263	184	1
16	✓	✓		257	242	237	249	241	249	237	246	208	195	181	164	163	163	165	170	173	173	182	192	185	193	(204	201)	203	1
17				—	—	—	—	—	—	—	—	—	238	224	216	196	193	199	196	201	199	183	176	193	206	239	251		0
18	✓	✓	✓	285	278	271	260	308	322	336	344	340	308	278	261	240	207	196	194	193	189	188	161	162	169	189	188	244	0
19	✓			188	175	175	143	159	169	185	171	177	182	170	168	165	159	156	152	157	163	163	163	161	157	158	155	165	1
20	✓	✓	✓	153	153	144	141	143	155	153	151	153	155	151	155	162	169	168	170	180	161	174	173	181	188	188	188	163	0
21	✓	✓	✓	198	185	193	187	189	165	170	187	211	176	181	179	183	(164)	146	121	143	162	182	112	106	95	147	155	164	0
22	✓	✓	✓	201	212	185	257	277	289	281	283	231	249	249	235	202	199	199	195	218	205	193	211	224	237	225	204	228	0
23	✓	✓	✓	290	279	255	305	300	300	302	300	289	278	247	222	211	215	211	213	220	232	255	237	269	278	283	288	262	0
24	✓	✓		295	316	318	318	336	341	334	340	341	281	268	287	274	246	232	233	222	222	238	250	275	277	288	269	283	1
25	✓			233	234	214	180	182	188	201	213	225	213	166	188	164	161	158	163	171	165	175	166	171	168	199	213	188	1
26	✓	✓		221	202	186	151	150	152	156	163	165	163	166	182	199	189	186	198	198	198	207	209	201	205	215	212	186	1
27	✓	✓		216	200	185	177	177	196	214	158	121	127	199	213	211	220	208	200	212	189	188	200	199	185	187	211	191	1
28	✓	✓	✓	229	234	194	189	195	200	222	240	244	245	271	281	268	256	267	275	270	268	234	177	166	176	300	320	238	0
29	✓	✓		300	292	259	278	289	268	278	289	313	349	328	304	277	258	241	237	237	241	199	163	150	107	151	174	249	0
30	✓	✓		187	209	248	254	264	298	329	324	319	314	328	304	284	257	257	257	261	240	233	260	258	267	265	270	270	1
31	✓			268	292	273	259	248	257	260	271	250	212	139	278	239	235	216	214	220	218	228	226	202	164	213	225	234	1
MEANS * 21 DAYS				240	238	234	237	244	248	250	252	246	234	222	224	215	205	198	197	195	198	198	194	190	193	214	213	220	
MEANS † 14 DAYS				244	243	234	244	253	260	266	270	259	245	239	231	222	212	205	204	209	206	206	200	205	206	226	228	230	
MEANS ‡ 7 DAYS				234	233	220	238	249	255	263	273	264	249	235	222	211	201	196	194	201	200	200	181	187	196	227	229	223	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 264

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				214	235	291	296	281	[182	111	132	195]	205	195	176	169	159	145	153	—	—	187	—	—	183	178	193		1
2				211	229	212	184	167	178	182	183	187	—	}111	137	117	137	103	140	120	212	101	112}	128	{125	124	90}		2
3				{94	123	119	134}	123	101	100	106	115	129	136	135	136	137	141	138	131	118	116	134	149	180	185	192		1
4				178	166	226	255	231	264	295	266	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
5				—	—	—	—	—	—	—	—	—	213	172	179	180	153	137	140	155	196	211	212	161	186	213	212		0
6	✓			208	233	257	275	270	273	277	240	285	{268	221	209}	193	171	164	168	169	178	172	[142	74	71	112	120]	198	–
7				215	227	257	276	290	298	292	286	277	253	241	225	221	186	(176)	191	199	197	[193	86	160]	178	171	214		1
8	✓	✓		266	273	263	282	298	303	299	309	292	229	200	206	199	195	180	178	177	171	203	222	259	239	216	213	236	1
9	✓			220	232	241	237	243	244	235	264	269	262	262	261	269	238	213	199	{192	109	142	111	129	182	152	155}	211	2
10	✓			{119	153}	118	114	121	128	123	131	128	{146}	144	153	157	156	155	149	153	143	146	149	152	158	161	155	142	1
11				151	140	130	128	113	134	150	187	167	158	152	146	142	145	135	139	145	138	143	139	154	169	171	160		1
12				165	182	179	167	170	159	181	228	251	246	250	222	199	186	181	166	154	151	166	—	—	—	—	—		0
13				—	—	—	—	—	—	—	—	—	406	400	360	299	233	189	164	167	194	197	254	251	227	209	221		0
14	✓	✓	✓	257	265	273	288	314	341	366	391	364	307	247	212	196	(180)	178	167	159	157	153	166	168	182	198	209	239	0
15	✓			198	196	185	179	169	{171	84	168	(178)	186	139	141}	143	149	151	152	139	140	137	149	156	167	203	218	162	1
16	✓	✓		205	207	186	203	200	210	198	195	163	165	158	151	152	152	143	142	140	139	142	145	132	151	158	154	166	1
17				161	161	170	209	226	254	263	265	228	217	202	178	176	169	172	171	170	161	138	141	144	153	169	188		0
18	✓	✓	✓	236	229	230	214	264	290	317	318	317	274	258	242	223	203	185	186	181	171	168	153	146	142	152	149	219	0
19	✓			153	137	{134	141}	99	114	113	120	136	140	142	149	150	145	140	135	136	137	143	143	140	125	129	124	134	1
20	✓	✓	✓	129	129	118	117	109	111	113	117	135	121	124	124	139	149	151	140	146	130	129	132	132	139	134	141	130	0
21	✓	✓	✓	142	137	138	138	140	[109	99	147	197	162]	163	162	162	164	(134)	{110	138}	134	151	90	79	74	126	127	134	0
22	✓	✓	✓	176	186	157	202	244	238	245	252	213	232	233	224	193	186	181	182	199	189	173	191	202	205	204	179	204	0
23	✓	✓	✓	247	246	225	273	267	272	253	253	253	243	230	202	191	202	188	185	180	202	225	202	234	243	257	263	231	0
24	✓	✓		264	274	295	294	303	313	324	321	315	242	251	270	251	226	213	205	195	[198	210]	219	242	262	280	{252}	259	1
25	✓			{228	227	290	161}	140	139	158	164	190	191	{212	197}	152	135	144	150	147	137	120	127	130	129	156	176	167	1
26	✓	✓		171	151	139	133	129	128	132	140	130	140	151	161	179	165	160	161	151	154	161	151	156	158	182	185	153	1
27	✓	✓		171	149	125	124	113	[90	121	87	101	74	147	{192}	197	187	182	158	153	146	133	119	155	139	141	168	140	1
28	✓	✓	✓	168	157	132	130	134	136	151	184	221	213	253	253	252	261	245	243	244	224	[189	132	124	142	255]	264	196	0
29	✓	✓		244	249	207	213	223	205	212	233	277	300	294	271	248	228	207	196	188	200	[160	121	113	74	114	120]	204	0
30	✓	✓		140	171	203	203	218	251	277	284	298	291	299	265	260	239	233	240	240	222	233	235	214	220	229	246	238	1
31	✓			247	283	247	225	224	231	237	250	{266	182	181	247	197	195}	196	193	191	191	193	190	197	{184}	190	184	213	1
MEANS * 21 DAYS				199	204	198	197	201	205	206	218	225	208	205	204	195	187	178	173	172	165	166	157	159	161	179	181	189	
MEANS † 14 DAYS				201	202	192	201	211	214	222	231	234	214	215	210	203	196	184	178	178	174	174	163	168	169	189	190	196	
MEANS ‡ 7 DAYS				194	193	182	195	210	214	221	237	243	222	215	203	194	192	180	173	178	172	170	152	155	161	189	190	193	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				76	64	83	Z	88	82	77	90	103	95	Z	N 75	N 39	N 64	N 67	89	90	72	73	N 68	N 73	86	89	92		1
2				98	90	N 59	99	N110	N 39	Z	Z-	-81	-105	Z	N 54	108	109	99	90	81	82	74	75	77	77	77	80		2
3	✓	✓		89	87	99	94	72	76	76	64	92	97	90	90	81	81	81	100	-36	-1	-17	72	87	N 91	N 33	63	69	1
4	✓	✓		63	N 62	N 41	-39	-114	N 36	N 10	-207	64	N 26	59	64	69	72	78	90	72	69	69	73	56	96	91	81	41	1
5	✓	✓	✓	77	51	55	56	53	50	51	48	59	63	76	82	87	88	82	87	59	76	77	84	98	84	92	72	71	0
6	✓	✓	✓	54	50	45	48	48	43	41	44	46	63	88	N 81	87	88	90	89	87	82	72	72	81	77	74	57	67	1
7	✓	✓		74	71	59	80	79	68	70	92	79	79	77	77	78	77	88	95	96	69	54	56	98	117	135	189	86	0
8	✓			193	189	137	124	92	80	67	60	61	60	58	65	71	70	68	73	71	46	41	60	90	76	53	55	82	0
9	✓			56	59	56	59	56	57	49	50	59	64	81	81	76	77	71	68	63	51	45	40	43	58	56	54	60	0
10	✓	✓	✓	63	78	72	70	56	57	53	55	65	77	71	71	76	74	74	74	73	54	41	34	38	41	44	46	61	0
11	✓	✓		46	45	40	43	46	40	40	45	50	57	54	62	89	83	72	72	64	45	44	40	61	178	133	87	64	0
12				82	59	56	60	49	38	40	45	36	46	62	63	67	67	61	65	57	N 36	N 15	Z	N 14	53	42	25		1
13				N 43	N 36	N 36	-11	56	59	44	N 7	N 14	-88	Z-	-7	Z-	Z-	-120	46	-31	34	N 18	41	30	45	45	Z		2
14				50	53	58	59	60	54	N 61	-95	-105	-209	Z	Z-	128	48	35	71	53	N 24	Z	Z	Z	Z	Z-	Z		2
15	✓	✓		N 26	134	130	135	128	121	117	98	106	91	86	75	72	88	86	80	80	86	81	79	90	83	83	74	93	1
16	✓	✓	✓	77	93	89	100	114	89	135	81	93	101	105	84	87	N 65	92	90	89	74	95	95	99	100	92	103	93	1
17	✓	✓		114	120	103	105	95	77	76	77	67	76	68	80	77	80	71	N 81	56	50	63	42	34	56	69	81	76	1
18				75	90	80	67	61	51	50	50	65	71	65	59	73	82	69	74	71	74	81	82	N 53	Z	N 48	108		1
19	✓	✓		N 55	121	119	N 60	N 77	N 46	102	122	146	N 80	148	125	105	98	N 65	98	108	96	97	95	108	115	116	120	101	1
20	✓	✓	✓	135	122	138	152	120	130	122	110	107	107	100	98	99	103	117	121	116	112	118	106	128	124	133	146	119	0
21	✓	✓		126	127	178	164	93	81	79	62	72	78	96	87	100	89	86	88	83	61	52	75	94	84	89	90	93	0
22	✓	✓		84	89	93	102	102	96	99	95	89	77	71	72	76	81	88	91	88	72	73	77	105	154	197	223	100	0
23	✓	✓		180	155	148	132	119	108	103	82	77	71	70	76	79	91	97	114	100	75	76	89	102	131	93	78	102	0
24	✓	✓		86	92	88	95	87	80	79	65	61	59	62	64	69	73	71	73	71	55	70	77	138	216	193	134	90	0
25	✓	✓	✓	118	98	109	111	107	78	59	114	95	75	78	77	81	80	97	96	97	86	72	65	68	93	88	99	89	0
26	✓	✓	✓	120	106	81	87	86	76	77	64	61	61	68	74	79	80	83	92	88	62	56	48	76	86	84	77	78	0
27				68	61	65	58	55	61	56	54	53	57	55	61	64	Z+	Z+	90	-40	-43	-227	-20	-114	N 54	N 4	N 32		2
28				N 7	N 80	Z	Z	-17	-62	-139	Z	Z-	Z	N 11	90	76	54	46	54	-8	Z	Z	N 63	N 76	N 69	90	91		2
29				100	105	103	97	99	95	80	95	96	84	76	88	113	N 72	100	89	N 13	N 23	-53	Z	Z	N 95	119	N 82		1
30	✓	✓		N 64	219	228	138	194	124	N112	105	102	101	102	-20	N 90	100	80	80	79	94	86	90	83	68	72	72	103	1
31																													
MEANS * 21 DAYS				90	103	100	91	81	77	77	63	79	74	81	75	82	83	83	88	76	67	65	70	85	101	96	95	83	
MEANS † 19 DAYS				87	101	101	91	82	78	79	64	81	76	83	75	83	84	84	90	77	69	67	72	87	105	101	100	84	
MEANS ‡ 7 DAYS				92	85	84	89	83	75	77	74	75	78	84	81	85	83	91	93	87	78	76	72	84	86	87	86	83	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { } = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALU

TABLE 266

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	722.6	14.5	90	16.2	12.9	0.50	2.7	NW	7	NW	12	SSW	15	SSE	3	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Rain throughout day
2	732.9	7.6	95	10.1	6.7	0.43	1.2	SW	1	WSW	2	SW	6	SSW	2	Cu; StCu; CuNb	10- 4	Cu; StCu; CuNb	3- 1	Much rain in am
3	740.6	10.0	83	14.9	3.9	0.18	5.6	SW	1	..	0	SSW	6	WNW	2	ACu; StCu	2- 6	Cu; StCu; CuNb	4-10	Rain in pm
4	738.9	10.5	86	15.0	9.4	0.33	4.2	..	0	SE	2	SE	4	..	0	ASt; StCu; CuNb	9- 4	ASt; StCu; Cu	4- 6	
5	744.1	9.1	84	16.1	3.3		5.8	..	0	..	0	W	1	SSW	1	CiSt; ASt; StCu	4- 7	ASt; StCu; CuNb	7- 8	Dew early; very light shower at 16h
6	747.3	11.3	90	16.6	4.4		5.7	..	0	..	0	SE	6	S	2	CiSt; ASt; StCu	4- 6	CiSt; ASt; StCu	4- 6	Dew early; clear in evening
7	750.4	8.8	86	15.3	1.6		7.3	..	0	..	0	E	3	..	0	CiSt; ASt; Cu	4- 6	CiSt; ASt; Cu	4- 6	Dew early
8	750.0	9.0	79	17.0	1.7		8.9	..	0	..	0	N	2	E	1		0		0	Dew early
9	750.4	10.5	69	17.6	2.9		9.0	..	0	NE	1	NNE	9	NE	1		0		0	Dew early
10	748.5	12.5	54	21.7	4.8		9.0	NNE	3	NNW	3	NNW	8	NNW	1	ASt	0- 1	ASt	0- 1	Dew early
11	749.5	12.8	58	22.7	6.5		2.8	NW	1	NNW	1	NNW	7	N	1	CiSt; CiCu; ASt; Cu	4- 8	CiSt; CiCu; ASt; Cu	4- 6	
12	745.9	12.0	62	22.8	7.7		1.3	..	0	N	4	NNW	11	WNW	4	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Rain in evening
13	745.3	17.0	92	13.3	11.0	0.16	0.0	NW	1	N	2	N	2	..	0	StCu; CuNb	7-10	StCu; CuNb	7-10	Rain throughout day
14	743.5	12.3	92	17.1	10.8	0.57	0.0	..	0	NNW	5	N	2	WNW	6	Nb	10	Nb	10	Rain throughout day
15	744.2	13.5	75	16.3	9.7	1.07	3.0	WSW	..	SW	..	NSW	5	..	0	FrCu; CuNb	7-10	ACu	4- 6	Few drops rain in am
16	744.4	13.5	89	16.5	8.0	0.01	5.4	NNW	1	NW	2	SW	7	WSW	2	ACu; Cu; Nb	1- 8	ACu; Cu; Nb	7- 8	Heavy mist until 8h; light rain during am
17	746.3	13.5	75	17.6	7.2	0.02	1.8	W	3	WNW	3	SW	6	WSW	1	Cu; CuNb	7-10	Cu; CuNb	7- 8	Dew early; occasional light rain
18	744.6	14.0	70	21.0	10.7	T	3.7	..	0	NNW	2	NNW	8	WNW	5	ACu; CuNb	4-10	ACu; CuNb	7-10	Light rain in late pm
19	739.0	13.1	93	16.6	10.8	0.36	3.9	WNW	3	W	4	SW	12	WSW	6	ACu; FrCu; CuNb	9-10	ACu	7- 8	Light rain in am; clear in evening
20	746.3	12.0	75	14.9	7.5	0.04	3.4	SW	2	SW	1	SSE	1	..	0	ACu; Cu	3- 8	ACu; Cu	7- 8	Clear in evening
21	750.1	10.3	85	13.7	3.9		3.6	..	0	..	0	E	2	..	0	CiSt; ACu	4- 6	CiSt; ACu	3- 1	Dew early
22	749.6	8.0	82	14.7	2.9		8.8	..	0	..	0	E	3	..	0		0		0	Dew early
23	748.7	7.6	82	15.7	1.7		8.8	..	0	..	0	ENE	4	..	0		0		0	Frost early
24	744.9	7.5	68	17.8	2.1		7.4	SE	1	ESE	1	..	0	SSE	2	ACu; ASt	7- 8	ACu; ASt	4- 6	Dew early; lightning in NE and E in evening
25	741.0	10.2	86	20.1	1.8		8.7	..	0	..	0	..	0	SSE	2		0		0	Heavy mist 6h5 to 8h
26	742.1	12.0	73	20.9	3.5		7.3	..	0	NNE	1	N	6	NE	1	CiSt; ASt; Cu	1- 6	CiSt; ASt; Cu	7- 8	Dew, possibly frost, early
27	741.3	12.3	75	19.4	9.0		0.8	NNW	1	..	0	NNW	8	NNE	6	ACu; ASt; FrCu; StCu	10	ACu; StCu; CuNb	10	Rain in evening and all night
28	737.9	12.6	96	15.6	12.0	0.80	0.0	NW	15	NNE	5	NW	..	NW	..	Nb	10	Nb	10	Rain from early hours and at intervals all day
29	738.6	12.8	94	18.4	8.7	0.34	4.8	NNW	..	NNW	..	NNW	14	WNW	..	Cu; StCu; CuNb	2-10	Cu; StCu; CuNb	7-10	Fog 7h-9h; rain in early hours and all day
30	740.2	12.4	83	15.0	8.0	0.35	4.8	W	..	W	..	SW	..	SW	..	Cu; StCu	6- 8	Nb	7-10	Occasional showers
31																				
SUM						5.16														
MEAN	743.6	11.2	81	17.0	6.5		4.6		1.5		1.9		5.6		1.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 267

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			215	199	199	165	211	218	196	182	173	158	183	170	175	177	173	163	162	161	173	169	168	175	175	175	180	1
2	✓			189	194	192	199	196	187	123	65	139	139	101	152	189	180	187	191	187	181	187	183	180	187	193	198	172	2
3	✓	✓		208	213	216	232	229	252	268	290	257	225	207	201	194	186	194	196	155	181	166	187	185	177	165	181	207	1
4	✓	✓		176	174	188	161	141	177	176	110	196	199	189	187	188	(180)	188	200	199	196	183	177	176	173	176	201	180	1
5	✓	✓	✓	211	247	258	261	270	296	298	310	315	282	250	233	212	208	207	207	199	200	199	187	189	201	208	215	236	0
6	✓	✓	✓	254	276	300	313	332	371	388	401	397	321	222	199	194	185	187	189	183	192	193	189	187	193	189	204	252	1
7	✓	✓		187	171	187	[157	150	186	213	177	175	189]	208	204	192	179	171	163	145	151	183	[141	113	127	103	100]	166	0
8				[102	103	133	151]	199	206	234	245	275	291	284	259	246	240	248	247	232	[220]	255	[201	135	180	242]	256		0
9				268	282	294	299	310	312	320	307	300	279	244	208	208	207	202	211	211	220	231	247	[239]	258	276	285		0
10	✓	✓	✓	294	264	262	256	257	248	251	268	272	260	245	219	215	205	212	199	185	207	219	225	241	267	248	252	240	0
11	✓	✓		257	252	279	300	302	319	341	345	332	303	304	267	[204	(151)	159]	186	196	219	213	232	[228	91	144	158]	241	0
12	✓			[194	245]	284	292	307	321	336	330	324	314	268	254	228	211	208	199	194	198	194	195	205	222	234	239	250	1
13	✓			216	218	233	226	294	297	297	288	271	224	79	176	164	174	149	200	207	200	204	183	182	170	188	198	210	2
14	✓			263	269	273	269	269	268	277	232	222	182	139	100	195	255	222	221	212	214	220	175	72	138	134	76	204	2
15	✓	✓		144	143	149	152	145	158	166	181	189	175	168	170	175	170	176	175	177	176	177	177	186	196	213	235	174	1
16	✓	✓	✓	252	224	215	204	[176	211	127	191	220]	211	179	168	182	174	163	159	158	164	173	176	176	191	194	199	187	1
17	✓	✓		201	206	205	200	213	222	220	212	205	189	164	162	169	163	161	161	164	157	175	174	182	174	187	200	186	1
18	✓			199	199	209	221	238	240	260	273	269	257	267	249	209	(180)	187	189	171	175	161	164	157	121	170	187	206	1
19	✓	✓		176	180	176	169	186	173	187	180	176	168	156	164	146	157	161	165	166	171	169	170	175	173	170	169	170	1
20	✓	✓	✓	162	168	168	166	188	180	175	183	196	193	192	189	186	187	198	196	188	199	188	206	202	208	206	198	188	0
21	✓	✓		205	[200	120	155]	234	261	284	290	252	250	202	200	199	199	(192	196)	192	206	233	220	198	206	211	207	213	0
22	✓	✓		213	226	204	199	199	206	205	198	248	292	303	275	242	262	241	252	252	246	235	235	[180	122	115	95]	219	0
23	✓	✓		[128	138	151	165]	183	200	221	241	283	314	290	278	257	246	232	[170	233]	251	251	233	229	192	238	269	225	0
24	✓	✓		286	279	277	284	291	292	297	327	351	373	354	350	346	340	322	307	295	277	246	211	[158	140	125	139]	278	0
25	✓	✓	✓	158	189	181	175	189	221	[212	189	265	286]	286	294	285	(258)	260	257	244	232	247	260	270	225	222	196	233	0
26	✓	✓	✓	200	225	263	273	262	283	288	298	[274]	321	302	278	273	270	250	235	227	[213	222	239]	270	267	272	283	262	0
27	✓			297	297	297	313	335	327	310	317	313	294	285	273	225	207	214	185	158	150	115	165	158	187	181	196	242	2
28				200	192	141	174	213	168	133	70	121	122	—	—	206	175	183	189	189	135	207	267	256	—	—	—		2
29				—	—	—	—	—	—	—	—	—	245	227	196	175	165	151	164	151	153	143	151	155	153	170	165		1
30	✓	✓		156	177	176	174	174	191	198	187	187	187	186	168	173	185	179	187	183	188	187	187	205	221	228	225	188	1
31																													
MEANS * 26 DAYS				209	214	218	218	230	242	243	241	250	243	220	215	208	203	200	198	194	196	197	195	187	182	188	192	212	
MEANS † 19 DAYS				204	208	209	210	217	234	238	241	252	249	232	221	212	206	203	200	197	201	203	201	197	187	190	196	213	
MEANS ‡ 7 DAYS				219	228	235	235	239	259	248	263	277	268	239	226	221	212	211	206	198	201	206	212	219	222	220	221	229	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 268

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			168	165	166	200	166	166	161	147	155	163	198	149	165	156	143	126	127	115	134	134	122	94	93	108	147	1
2	✓			115	135	139	129	109	160	183	165	170	184	214	188	156	152	149	149	148	128	126	125	122	127	122	126	147	2
3	✓	✓		130	143	134	142	124	166	191	214	194	179	157	163	165	157	170	157	172	156	142	136	139	139	161	155	158	1
4	✓	✓		148	149	157	169	187	168	174	188	159	157	158	157	174	177	(180)	172	168	150	127	126	134	126	122	147	157	1
5	✓	✓	✓	157	188	185	203	237	238	240	235	279	254	219	190	171	177	177	178	165	145	147	133	123	130	131	161	186	0
6	✓	✓	✓	193	222	251	253	289	335	345	346	339	267	179	167	174	171	162	157	151	140	145	145	139	145	153	158	209	1
7	✓	✓		149	153	168	[139	132	145	174	136	143	154]	165	159	157	153	148	139	127	130	155	[121	97	80	83	72]	137	0
8				[65	63	96	112]	138	167	193	218	238	246	247	231	217	216	208	202	183	[189]	224	[180	174]	—	—	—		0
9				—	—	—	—	—	—	—	—	—	244	214	197	192	182	189	193	188	187	204	221	[207]	209	226	241		0
10	✓	✓	✓	236	207	207	210	225	223	233	228	234	222	225	210	198	189	190	184	160	174	195	214	229	248	233	232	213	0
11	✓	✓		246	254	258	275	273	296	307	314	303	271	273	247	[187	148]	(167)	170	172	186	177	197	[199	69	110	139]	218	0
12	✓			[159	208]	247	251	271	297	294	292	289	279	244	230	213	197	201	184	178	185	185	185	186	180	190	206	223	1
13	✓			186	184	186	210	246	245	245	264	250	256	228	188	213	221	197	172	222	182	187	151	147	132	142	199	202	2
14	✓			213	218	221	226	228	235	243	264	267	264	254	232	227	185	173	163	170	182	183	199	247	200	212	225	218	2
15	✓	✓		143	115	114	113	111	109	115	116	126	130	143	137	128	145	147	140	142	147	141	126	114	123	141	172	131	1
16	✓	✓	✓	192	167	165	152	[131	161	104	147	172]	177	159	146	152	151	127	120	120	125	126	122	124	114	124	123	142	1
17	✓	✓		132	137	146	146	141	158	167	169	180	148	133	130	134	126	125	115	117	125	127	126	128	114	119	124	136	1
18	✓			147	125	152	165	164	182	201	213	229	218	236	221	185	173	(161)	163	155	149	146	147	147	175	161	135	173	1
19	✓	✓		154	136	141	156	149	165	138	124	129	132	120	130	126	134	137	123	126	126	127	130	131	115	117	119	133	1
20	✓	✓	✓	105	109	89	74	88	83	(100	126)	129	143	142	154	143	148	137	141	138	124	124	115	93	99	90	95	116	0
21	✓	✓		110	[105	67	87]	145	178	207	223	180	198	157	159	157	168	159	(169	171)	166	178	148	122	161	147	147	155	0
22	✓	✓		155	149	156	147	147	158	159	164	199	252	262	243	222	236	219	220	211	199	179	170	[125	74	61	59]	174	0
23	✓	✓		[85	99	104	126]	145	170	167	170	237	266	250	247	230	217	210	[147	199]	197	182	169	166	124	167	211	179	0
24	✓	✓		227	228	230	222	238	236	254	277	301	349	311	314	301	289	276	263	243	225	201	178	[126	96	96	113]	233	0
25	✓	✓	✓	129	147	153	142	151	184	[162	(128)	214	221]	236	237	242	232	(195)	199	194	177	201	207	221	181	179	136	186	0
26	✓	✓	✓	141	171	203	205	200	208	235	244	[239]	269	259	241	231	227	211	194	171	[161	174	184]	208	200	207	210	208	0
27	✓			221	238	240	257	251	248	269	256	250	247	244	236	203	160	161	150	173	(167	185	207)	201	167	181	180	212	2
28				193	176	209	205	204	188	197	252	199	168	147	148	156	164	166	158	180	230	188	168	159	147	134	120		2
29				116	(115	127)	149	—	(117)	183	—	—	203	190	172	155	151	136	140	150	160	156	141	126	119	124	121		1
30	✓	✓		175	89	82	101	93	106	131	121	134	136	134	143	136	134	147	142	132	115	119	100	115	136	158	179	127	1
31																													
MEANS * 26 DAYS				162	163	168	173	178	193	200	203	212	213	204	193	184	178	172	163	164	157	158	154	150	136	142	151	174	
MEANS † 19 DAYS				158	156	158	161	169	184	190	193	205	207	194	188	180	178	173	165	162	156	156	150	144	130	137	145	168	
MEANS ‡ 7 DAYS				165	173	179	177	189	205	203	208	229	222	203	192	187	185	171	168	157	149	159	160	162	160	160	159	180	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 269

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			63	75	80	72	64	65	54	54	68	77	86	99	96	90	78	87	78	N 59	71	69	79	70	69	64	74	1
2	✓	✓		71	77	103	N 56	N 61	111	98	89	135	146	119	122	101	107	108	106	114	107	97	90	99	100	100	91	100	1
3	✓	✓		94	93	N 80	108	109	105	116	107	108	111	115	87	96	95	105	93	93	90		79	94	69	70	75	95	1
4	✓	✓	✓	92	105	126	116	121	129	129	114	101	89	90	87	90	77	80	71	79	76	71	79	94	111	99	89	96	0
5	✓	✓	✓	76	88	84	71	63	60	63	63	61	63	75	75	79	86	79	77	74	53	52	55	75	81	75	77	71	0
6	✓	✓	✓	63	62	59	71	70	61	59	68	67	70	71	73	74	81	79	68	57	44	53	56	59	65	99	87	67	0
7	✓	✓	✓	89	82	83	75	96	100	96	122	96	76	74	68	76	83	87	90	89	84	78	75	59	45	54	78	81	0
8	✓	✓		71	56	60	74	67	44	54	50	88	108	102	102	108	110	N 95	105	99	84	97	N 53	118	N 99	N 21	108	82	1
9	✓	✓		134	139	124	120	134	130	N 98	108	N 69	N 83	95	92	82	90	N 75	95	N 69	99	88	81	84	68	76	79	96	1
10	✓	✓	✓	77	77	96	87	71	70	80	73	91	83	89	95	93	79	97	92	92	84	80	77	76	72	114	100	85	0
11	✓	✓		100	108	101	200	159	186	145	108	80	68	74	86	79	84	74	80	80	68	67	90	87	79	99	97	100	0
12	✓	✓	✓	69	64	60	65	64	68	56	63	73	80	84	87	87	95	86	91	89	83	64	73	64	65	61	62	73	0
13	✓	✓	✓	58	68	80	76	77	67	64	72	78	84	81	88	87	90	88	84	94	68	73	69	73	70	61	64	76	0
14				63	68	64	56	60	63	56	50	53	50	53	57	62	63	74	74	49	-27	N 12	-126	Z	N 15	91	92		2
15	✓	✓		95	81	87	110	89	100	101	92	114	115	105	N 75	95	91	97	109	100	93	81	77	76	80	79	70	92	1
16	✓	✓	✓	58	58	56	69	71	64	61	58	58	67	101	95	107	83	77	77	83	83	80	53	46	62	64	65	71	0
17	✓	✓	✓	67	72	67	72	80	69	93	77	79	84	80	84	77	76	80	82	77	68	62	71	69	71	64	51	74	0
18	✓	✓	✓	54	54	61	67	70	75	69	63	55	64	59	56	69	70	61	70	80	68	72	74	83	91	87	97	70	0
19	✓	✓	✓	93	87	73	69	64	58	50	54	64	74	92	93	83	88	93	101	96	95	90	88	97	105	99	88	83	0
20	✓	✓	✓	92	86	105	109	107	93	96	68	74	101	107	101	95	101	96	99	103	100	96	87	78	79	72	73	92	0
21				—	—	—	—	—	—	—	—	—	79	90	79	79	N 70	63	N 56	96	69	60	60	50	70	58	59		1
22	✓	✓	✓	55	59	58	59	53	64	68	63	73	80	76	77	74	77	78	77	79	56	76	65	68	76	62	63	68	0
23	✓	✓	✓	56	53	50	63	59	68	64	56	52	54	56	61	68	78	90	89	87	90	81	78	83	81	107	84	71	0
24				68	64	68	56	60	61	72	159	136	118	75	80	76	83	N 48	N 87	Z	110	98	83	76	83	68	71		1
25				89	74	72	86	63	63	93	51	N 68	45	45	62	72	81	-93	N 53	N 65	-114	-55	Z	-13	Z	Z	Z		2
26				Z	-31	116	125	Z	N100	102	115	111	Z	Z	102	130	Z	164	Z	Z	122	101	90	86	74	76	65		2
27	✓	✓	✓	60	56	75	96	68	53	93	60	74	78	80	84	92	108	110	99	98	92	67	70	74	86	83	80	81	0
28	✓	✓		83	99	94	77	75	70	65	63	63	55	50	64	N 31	N 78	90	89	102	99	90	90	90	100	73	81	78	1
29	✓			78	81	86	77	71	58	50	49	52	50	51	65	81	88	90	76	97	92	87	84	76	68	63	57	72	0
30	✓			62	55	62	70	59	59	53	46	60	57	72	65	65	90	95	96	102	88	89	75	N 56	75	79	82	71	1
31	✓	✓		82	86	73	97	77	94	96	88	97	68	64	68	77	81	87	163	105	95	93	90	86	77	91	83	88	0
MEANS * 26 DAYS				77	78	80	86	81	82	80	74	78	80	83	83	83	88	88	91	89	81	79	75	79	79	78	79	81	
MEANS † 23 DAYS				78	79	81	87	83	84	83	77	80	83	84	83	83	87	87	92	89	82	78	75	80	80	79	80	82	
MEANS ‡ 15 DAYS				71	71	76	78	76	73	76	72	73	76	81	82	83	85	85	84	85	76	73	71	73	77	80	77	77	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 270

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	742.7	10.5	88	15.8	3.2	0.05	4.8	WNW	..	NW	1	W	7	SW	1	StCu	1- 6	StCu; CuNb; Nb	7-10	Light mist early; light rains after 15h
2	742.3	11.9	87	14.7	7.6	0.09	2.8	WNW	2	..	0	SW	10	..	0	ACu; ASt	4- 8	StCu	9-10	Misty early; clear in evening; dew at 20h
3	748.0	11.5	73	13.7	6.0	0.04	4.2	SW	7	SSW	2	SSE	3	SSE	1	ACu; ASt; StCu	3- 8	ACu; ASt; StCu	1- 3	Dew early
4	753.8	7.6	79	12.8	2.6		8.8	SSE	2	ESE	2	E	7	ESE	2	CiSt	0- 1		0	Heavy dew early; thin haze over sky all day; dew at 20h
5	752.9	8.0	74	16.7	1.5		8.9	E	2	ENE	1	NE	3	SE	2		0		0	Heavy frost early
6	750.0	9.0	75	18.9	2.1		9.0	..	0	..	0	..	0	S	1	CiSt	1- 9	CiSt	7- 9	Dew early
7	745.6	9.5	76	18.9	3.0		4.6	S	1	..	0	WNW	4	..	0	CiSt; ACu	4- 6	CiSt; ACu	3- 1	Dew early; clear in evening
8	741.4	11.9	93	16.7	3.7	T	4.2	..	0	..	0	WSW	15	SW	8	Cu; CuNb	6-10	Cu; CuNb	10	Dew early; light showers during day and at night
9	744.6	8.5	81	13.5	4.8	0.13	4.2	SSW	2	ESE	1	S	4	..	0	ASt; StCu; CuNb	7-10	ASt; StCu; CuNb	4- 6	Rain at intervals
10	746.9	10.2	87	14.8	3.2	0.02	4.9	SW	1	..	0	S	4	SSE	2	ACu; StCu	4- 6	ASt; StCu	4- 6	Fog until 9h
11	751.1	8.4	82	14.6	2.5		9.0	..	0	E	1	ENE	8	SE	1	CiSt	0- 1		0	Frost early; thin haze over sky all day
12	751.1	9.0	70	15.4	0.5		4.0	ENE	1	NE	2	NNE	6	ENE	1	CiCu	1- 3	CiCu	4- 6	Frost early
13	748.3	8.9	62	16.4	-0.1		5.3	..	0	NNW	4	NNW	4	..	0	CiSt; CiCu; ASt	3- 6	CiSt; CiCu; ASt	7- 8	Heavy frost early
14	742.4	10.7	56	16.8	7.2		0.0	..	0	NNW	3	W	8	W	2	StCu; Nb	10	StCu; Nb	10	Rain in pm and at night
15	743.9	10.7	83	15.0	6.5	0.55	7.5	W	3	WSW	1	SSW	5	SW	1	FrCu; StCu	2- 6	FrCu; StCu	1- 3	Clear at night; dew at 20h
16	747.0	7.8	90	15.1	1.7		4.6	..	0	..	0	..	0	SW	1	Cu; FrCu	3- 6	Cu; FrCu; CuNb	1- 3	Dew early; clear in evening
17	749.6	8.8	89	16.9	1.2	T	8.3	..	0	..	0	..	0	SSW	1		0		0	Heavy mist early, and frost
18	750.5	11.0	84	16.7	6.1	T	0.9	..	0	NW	1	..	0	WSW	2	ACu; ASt	10- 7	ACu; Cu	4- 6	Dew early
19	748.9	11.8	77	18.1	6.5		4.0	NNW	1	NNW	2	W	10	SW	3	Cu	4- 6	Cu; Nb	7-10	Few drops rain in evening and at night
20	748.9	11.8	95	16.9	8.0	0.02	3.0	WSW	1	..	0	SW	5	SW	1	Cu	7- 8	Cu	7- 8	
21	749.9	12.8	69	15.5	8.0	T	1.0	..	0	..	0	SE	2	..	0	ASt; StCu; Nb	7-10	ASt; StCu; Nb	7-10	Showers at intervals
22	752.0	11.8	59	16.1	7.8	0.03	9.0	..	0	ENE	3	NE	5	..	0	StCu; CiSt	1- 3		0	Thin haze over sky
23	749.2	9.6	74	18.8	2.0		9.0	..	0	..	0	WNW	7	..	0		0		0	Dew early
24	744.9	10.0	98	18.0	5.5		2.0	..	0	NNW	2	W	8	..	0	FrCu; StCu; Nb	7-10	FrCu; StCu; Nb	7-10	Fog until 10h; rain at intervals
25	742.2	11.4	97	17.3	8.9	0.15	0.0	..	0	..	0	NNW	9	NW	2	Nb	10	Nb	10	Mist and light rain in am; showers at intervals during day
26	736.9	12.2	76	15.0	10.0	1.02	3.7	NNW	3	NW	7	WSW	12	WSW	1	ASt; StCu; Nb	10	ASt; StCu; Nb	10	Rain in early hours and throughout day
27	741.1	10.0	96	17.7	4.9	0.39	5.3	..	0	..	0	..	0	..	0	FrCu; StCu	2- 6	FrCu; StCu	1- 3	Fog until 9h5; clear at night
28	741.0	11.3	94	15.9	7.4	T	2.1	..	0	NNW	1	WSW	4	WSW	4	ACu; ASt; CuNb	10- 7	FrCu; Cu	6- 4	Possibly dew early; few drops rain in am; dew at 21h
29	741.9	9.8	95	15.1	2.8	0.03	0.9	..	0	NW	1	SW	4	..	0	ASt; FrCu; CuNb	10- 7	Cu	6- 4	Dew early; few drops rain in am; clear in evening
30	743.4	9.6	95	16.4	4.5	0.05	4.1	..	0	..	0	NNW	4	..	0	ACu; Cu	1- 6	ACu; Cu	3- 1	Mist early; clearing in evening
31	745.4	11.2	98	17.7	8.5	0.04	5.9	..	0	NNW	1	NNW	1	..	0	ACu; Cu	10- 7	ACu; Cu; CuNb	7- 8	Heavy mist until 9h; rain in pm; clear in evening
SUM						2.61														
MEAN	746.3	10.2	82	16.2	4.8		4.6		8.7		1.2		5.1		1.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 271

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈239	205	202⌋	281	314	337	372	407	401	328	264	217	198	191	180	190	184	181	188	194	196	219	224	225		1
2	✓	✓		225	233	217	191	179	192	182	174	167	171	171	152	156	164	(159)	169	168	169	179	180	181	182	180	181	180	1
3	✓	✓		180	172	174	172	181	179	168	179	179	168	171	167	180	174	182	181	181	182	181	178	143	169	176	178	175	1
4	✓	✓	✓	158	166	157	149	148	146	146	164	180	191	183	182	190	182	183	184	194	202	212	180	167	175	192	213	177	0
5	✓	✓	✓	229	224	246	267	272	283	290	281	279	300	246	205	197	189	189	201	201	178	185	201	196	187	222	233	229	0
6	✓	✓	✓	251	269	294	290	295	300	307	295	311	296	281	268	244	236	235	237	239	227	215	237	237	231	159	194	256	0
7	✓	✓	✓	213	230	240	251	⌈218	205	202	172	227⌋	301	303	297	266	234	233	222	192	192	201	219	259	287	297	266	239	0
8	✓	✓		263	293	315	319	338	378	380	409	}256{	217	196	175	166	159	(150)	162	167	166	169	}157{	147	155	}143{	158	227	1
9	✓	✓		164	166	169	173	175	173	}188{	194	183	185	174	175	175	176	176	}173{	172	173	176	185	196	193	200	201	180	1
10	✓	✓	✓	213	218	215	215	⌈258	281	259	241	240	209⌋	194	198	191	181	187	187	182	180	192	194	181	174	⌈143	147⌋	203	0
11	✓	✓		⌈141	135	137	84	92	95	122	142⌋	209	227	208	192	182	181	192	207	220	221	211	185	191	169	192	203	172	0
12	✓	✓	✓	241	262	300	317	317	322	351	345	⌈280⌋	272	238	229	206	207	192	205	217	198	235	212	212	215	228	251	252	0
13	✓	✓	✓	279	282	263	259	270	298	292	277	259	256	251	235	217	203	205	203	213	233	236	238	240	241	246	277	249	0
14	✓			301	309	313	317	332	338	364	371	353	331	324	310	283	242	221	205	203	182	181	}140	94	183	184	178	261	2
15	✓	✓		182	202	211	196	209	206	196	208	202	191	181	176	181	184	176	184	185	178	184	200	208	209	208	230	195	1
16	✓	✓	✓	241	260	290	270	280	303	325	351	344	263	183	158	155	(168)	158	167	172	162	168	183	199	234	242	238	230	0
17	✓	✓	✓	237	227	226	220	205	219	205	209	230	258	246	209	201	199	200	201	196	184	209	198	200	202	227	234	214	0
18	✓	✓	✓	259	259	234	227	226	222	244	247	250	260	281	262	234	203	207	193	184	189	194	203	196	202	203	207	224	0
19	✓	✓	✓	205	228	256	291	308	354	378	363	338	283	226	187	179	171	172	171	174	172	180	187	175	175	190	193	232	0
20	✓	✓	✓	187	202	206	208	209	}233{	194	240	}230{	213	183	181	181	181	183	182	188	182	179	184	202	(196	203	200)	198	0
21	✓			210	220	231	230	203	199	209	}213{	234	224	}209{	210	198	205	}198{	200	}185{	194	191	203	}212{	210	221	229	210	1
22	✓	✓	✓	237	246	253	273	301	285	271	256	202	197	199	203	210	215	224	231	233	⌈226	218⌋	236	229	226	240	264	236	0
23	✓	✓	✓	287	304	311	276	248	226	250	267	325	321	311	271	247	215	(197)	191	185	189	197	213	231	237	235	239	249	0
24	✓			286	297	306	317	307	293	⌈235	166	180	217⌋	281	219	197	183	}169{	185	138	}184{	181	199	201	203	210	208	223	1
25	✓			212	241	263	}216{	235	290	225	261	245	230	}272{	237	205	192	}149{	181	193	138	163	116	156	110	64	80	}195{	2
26	✓			}98{	134	}185{	184	}118{	172	181	180	179	}137{	122	159	158	157	162	146	157	}167{	172	174	184	194	202	233	165	2
27	✓	✓	✓	⌈268	229	222	174	245	297	198	282	277	255⌋	240	212	205	197	203	207	209	206	210	218	205	202	201	199	223	0
28	✓	✓		201	199	203	226	240	248	260	280	296	310	294	246	213	226	220	202	181	179	178	174	179	182	202	206	223	1
29				213	211	225	238	262	300	353	368	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
30				—	—	—	—	—	—	—	—	—	343	247	226	205	191	182	191	190	185	191	202	202	}220{	219	216		1
31	✓	✓		184	191	203		226	216	⌈162	167	197	228⌋	253	245	224	213	197	192	188	183	185	191	192	202	197	⌈190⌋	202	0
MEANS * 28 DAYS				220	228	237	[illegible]	237	248	242	248	245	240	229	213	201	194	190	192	190	187	192	192	193	198	200	208	215	
MEANS † 23 DAYS				219	226	232	229	237	246	242	250	246	242	227	210	200	194	192	194	193	190	195	198	199	202	205	213	216	
MEANS ‡ 15 DAYS				234	240	248	246	253	265	261	266	265	258	238	220	208	199	198	199	199	195	202	207	209	212	215	224	228	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈198	177	171⌋	—	—	—	—	—	—	284	236	192	177	172	164	162	157	150	151	139	125	147	(174	182)		1
2	✓	✓		186	185	177	159	147	146	129	106	109	108	129	121	125	(129)	132	126	124	113	106	115	116	123	122	135	132	1
3	✓	✓		139	127	≷134≶	115	96	99	106	112	117	132	128	145	148	150	148	149	139	122	115	128	98	134	125	127	126	1
4	✓	✓	✓	113	113	96	95	82	74	88	102	150	(177)	177	162	172	176	175	180	176	171	168	140	129	116	147	173	140	0
5	✓	✓	✓	192	159	184	231	236	243	228	228	238	255	218	177	176	167	167	176	173	149	147	163	167	160	170	179	191	0
6	✓	✓	✓	205	204	210	248	240	266	269	258	267	246	250	242	228	218	210	198	197	195	178	202	204	200	142	160	218	0
7	✓	✓	✓	174	189	194	216	⌈185	136	130	125	165⌋	245	268	277	248	223	216	197	167	150	156	169	219	236	226	207	197	0
8	✓	✓		220	257	262	265	283	306	303	341	201	164	157	153	145	(136)≷	133≶	130	136	135	136	≷140≶	109	121	≷134≶	120	187	1
9	✓	✓		112	107	95	105	91	75	≷107	81	132	128	131≶	139	141	141	≷141	131	132≶	98	114	136	136	146	147	143	121	1
10	✓	✓	✓	150	164	138	143	⌈179	193	202	157	164	147⌋	153	160	160	158	162	156	136	119	151	151	148	149	⌈106	114⌋	152	0
11	✓	✓		⌈116	105	109	49	74	70	84	110⌋	207	232	187	180	166	170	183	196	198	195	170	124	127	123	134	138	144	0
12	✓	✓	✓	190	223	256	277	276	251	301	284	⌈252⌋	238	226	209	189	176	166	172	176	164	198	175	179	173	185	215	215	0
13	✓	✓	✓	232	209	221	211	225	247	249	241	231	225	226	210	201	184	181	177	177	192	187	202	211	215	208	227	212	0
14	✓			261	273	286	290	290	304	321	338	333	306	299	284	268	242	209	187	192	197≷	181	177	240	167≶	116	106	244	2
15	✓	✓		122	143	161	150	154	116	112	131	143	131	154	157	155	156	154	139	134	116	127	137	149	145	142	170	142	1
16	✓	✓	✓	193	186	200	205	194	235	229	269	283	228	139	114	114	130	126	125	138	124	116	114	137	187	185	181	173	0
17	✓	✓	✓	191	182	187	169	161	176	149	168	192	215	209	174	166	167	156	154	141	131	147	145	141	148	163	179	167	0
18	✓	✓	✓	187	194	182	171	163	157	188	200	239	219	245	223	186	176	167	156	156	154	149	151	143	147	153	147	177	0
19	✓	✓	✓	155	169	201	235	256	288	326	312	286	246	206	184	166	166	158	155	154	140	136	138	127	115	121	132	190	0
20	✓	✓	✓	115	130	127	129	128	≷137	134	165≶	168	163	133	136	142	140	138	139	130	126	110	120	140	135	142	141	136	0
21	✓			149	145	151	162	137	128	143	≷140	167	158≶	166	157	166	≷168	167	154≶	155	148	148	136	≷146≶	139	168	177	153	1
22	✓	✓	✓	199	192	206	227	241	231	228	207	179	174	167	177	183	191	194	198	190	⌈173	157	184⌋	177	172	197	215	194	0
23	✓	✓	✓	146	259	244	225	214	192	218	236	286	296	296	264	245	(221)	199	190	178	162	151	157	174	190	168	197	213	0
24	✓			213	221	231	261	242	239	⌈190	128	154	198⌋	257	205	178	170≷	164	175	168≶	142	146	133	135	120	156	145	182	1
25	✓			140	167	184≷	149	175	180	157	211	202	209≶	243	217	189	177≷	184	176	169	167	168	146	170	169	204	237≶	183	2
26	✓			≷216	141≶	129	131	≷185≶	139	119	128	154	≷128	188	150	135	123	138	154	128≶	123	125	116	126	138	153	178	144	2
27	✓	✓	✓	⌈196	185	166	103	189	236	145	221	220	197⌋	198	176	159	151	148	166	148	132	149	154	135	134	140	140	166	0
28	✓	✓		135	136	148	153	164	216	225	220	249	274	260	227	198	194	186	176	149	124	125	115	121	106	126	133	173	1
29				156	152	159	179	206	245	302	304	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
30				—	—	—	—	—	—	—	—	—	296	232	208	189	177	168	169	169	147	137	149≷	159	131	142	138≶		1
31	✓	✓		138	136	143	135	142	148	⌈116	129	156	198⌋	227	215	197	196	187	≷153≶	154	129	120	122	139	143	134	⌈138⌋	154	0
MEANS * 28 DAYS				171	175	179	179	184	187	186	191	202	201	201	187	177	171	167	164	158	146	146	146	152	152	154	163	172	
MEANS † 23 DAYS				165	172	176	175	179	184	185	191	201	202	195	184	174	170	166	163	157	144	144	147	149	153	153	161	170	
MEANS ‡ 15 DAYS				176	184	187	192	198	204	206	212	221	218	207	192	182	176	171	169	162	152	153	158	162	165	164	174	183	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈98	67	79	82	109	74	60	67	101	73⌋	≷64	N 76	N 71	Z	111≷	98	99	96	86	80	89	88	89	67		1
2				87	79	90	92	100	96	100	86	101	88	83	98	105	112	102	96	103	96	94	79	80	88	—	—		0
3				—	—	—	—	—	—	—	—	—	68	86	83	97	77	92	93	88	65	82	72	74	77	80	81		0
4	✓	✓	✓	86	80	88	94	79	74	76	79	94	110	99	108	113	118	122	136	112	90	91	95	103	112	103	108	99	0
5	✓	✓	✓	103	105	100	100	94	95	89	90	80	72	70	68	71	87	83	97	84	71	71	74	90	105	96	118	88	0
6	✓	✓	✓	112	111	120	112	110	110	81	68	65	64	69	64	70	82	90	79	86	71	77	81	74	65	67	58	83	0
7	✓	✓	✓	73	72	71	73	80	83	74	68	65	59	55	56	62	69	75	92	97	77	64	93	120	115	87	82	78	0
8	✓	✓	✓	88	94	99	96	106	96	91	86	87	83	75	74	70	72	79	80	83	90	⌈94	109	112⌋	94	90	84	89	0
9	✓			82	83	84	81	80	88	80	83	87	90	93	91	90	94	99	96	91	97	75	62	60	98	103	90	87	0
10	✓			78	71	87	101	99	96	102	98	90	83	86	87	95	96	96	87	87	81	73	68	71	57	67	55	84	0
11				53	65	74	83	71	96	57	76	87	92	90	93	81	≷N 36	N 96	−6	Z	Z+≷	128	128	153	148	143	127		1
12	✓	✓		128	131	140	166	159	146	130	121	114	108	117	112	106	122	135	138	161	131	118	114	129	121	137	107	129	0
13				102	105	97	77	83	76	76	67	72	81	89	98	100	89	80	78	108	106	108	≷Z+	Z	Z	−26	N 65≷		1
14				≷111	Z	151	Z	194	Z	Z	Z	Z≷	124	128	≷Z	Z	Z	Z	145	N 201	232	N 86	124	N 102≷	117	111	105		1
15	✓	✓	✓	99	99	113	126	112	105	84	80	79	74	79	77	63	75	77	99	116	88	82	82	75	91	71	74	88	0
16	✓	✓	✓	96	87	69	81	92	88	93	65	68	68	87	102	98	100	107	112	110	90	83	82	86	86	96	92	89	0
17	✓	✓		82	105	102	108	102	91	75	68	77	94	108	115	111	99	103	97	80	105	100≷N	77	N 90≷	133	106	≷N 102≷	97	1
18				≷Z	63≷	127	150	—	—	—	—	121	111	99	95	93	87	103	88	98	84	89	87	83	83	82	86		1
19	✓	✓		93	111	101	89	117	92	99	101	91	90	≷N 43≷	82	96	89	86	94	89	91	94	97	77	95	106	105	93	1
20	✓			102	98	96	97	124	118	118	115	111	95	94	88	89	87	84	96	97	94	96	90	77	81	88	76	96	0
21	✓			77	67	65	63	80	75	68	91	82	77	≷N 62	N 54	N 64	76	73	59≷	90	82	77	87	86	80	83	88	75	1
22	✓	✓	✓	93	87	96	68	79	58	54	56	67	68	75	68	63	76	72	62	68	70	67	74	80	96	116	109	76	0
23	✓	✓	✓	107	99	88	93	94	84	87	76	60	58	60	69	75	87	87	93	99	102	94	113	130	111	129	142	93	0
24				111	86	94	117	96	68	63	65	75	76	72	77	61	59	59	63	53	42	54	61≷	Z	Z	N 7	N 50≷		1
25				53	56	46	52≷	Z	Z+	N 94	140	89≷	61	55	56	50	≷N 34≷	68	60	63	71	77	87	96	107	124	127		1
26	✓	✓	✓	114	116	125	135	130	114	101	117	98	103	100	95	106	103	109	102	114	113	103	102	96	88	80	113	107	0
27	✓	✓	✓	96	111	105	107	113	113	109	98	76	92	75	68	71	73	80	74	87	75	65	68	82	99	100	111	90	0
28				113	89	80	89	96	99	90	82	69	81	83	86	102	100	88	97≷	−21	84	N 74	83	70	81	N 50	Z−≷		1
29				≷Z	−41	Z≷	108	103	137	113	120	110	102	90	76	73	76	59	≷N 61≷	71	86	90	93	94	98	105	102		1
30	✓	✓	✓	99	117	108	107	98	100	111	108	122	105	102	118	106	105	97	96	105	99	96	94	95	108	112	127	106	0
31	✓	✓		145	159	154	144	131	117	97	99	99	111	91	94	88	98	91	93	100	108	105	111	⌈130	173	149	136⌋	118	0
MEANS * 20 DAYS				98	100	100	102	104	97	91	88	86	85	82	84	85	90	92	94	98	91	86	89	93	100	99	99	93	
MEANS † 16 DAYS				101	105	104	106	106	98	91	86	84	85	82	86	86	91	93	96	99	92	88	92	98	106	103	104	96	
MEANS ‡ 12 DAYS				97	98	98	99	99	93	88	83	80	80	79	81	81	87	90	94	97	86	82	89	95	98	96	102	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 274

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	744.6	9.5	94	15.1	4.2	T	3.9	..	0	NNW	1	WSW	10	SW	1	FrCu; Cu; Nb	5- 8	FrCu; Cu; Nb	7- 8	Mist early until 9h; showers during day
2	745.7	10.5	93	15.4	8.2	0.11	4.2	..	0	..	0	SSW	6	..	0	Nb	10- 7	Nb	6- 4	Showers in am; clear in evening
3	747.4	9.2	91	15.8	1.4	0.01	4.4	..	0	..	0	..	0	..	0	Cu	1- 6	Cu	1- 6	Dew early and mist
4	748.5	12.8	81	17.0	4.0		7.7	..	0	..	0	E	2	ESE	2	StCu; FrCu	1- 3	StCu; FrCu	1- 3	Dew early
5	748.3	10.3	76	18.5	4.1		9.0	..	0	..	0	E	1	..	0	StCu	1- 3	StCu	1- 3	Dew early
6	746.0	11.3	64	19.8	3.2		9.4	..	0	..	0	NE	1	S	3		0		0	Dew early
7	744.3	11.0	67	19.4	3.7		9.6	S	2	SE	1	SSE	4	SSE	3		0		0	Dew early
8	746.4	10.8	77	18.5	6.1		9.5	SE	2	ESE	11	E	10	ESE	7	FrCu	1- 3	FrCu	1- 3	
9	749.0	12.1	59	19.3	7.0		9.5	E	3	NNE	12	NNE	6	..	0		0		0	
10	744.1	12.6	44	20.3	5.9		7.1	N	2	N	10	N	7	..	0	CiSt; CiCu; ASt	2- 6	CiSt; CiCu; ASt	1- 3	
11	738.0	14.5	72	15.8	10.9		0.6	N	1	NW	4	NNW	7	S	2	Cu; ACu; CuNb	10	ACu; Cu; CuNb	10- 7	Rain in pm; few Cu clouds in evening
12	741.9	9.5	75	14.2	5.5	0.27	5.8	SSE	1	ESE	1	..	0	..	0	Cu	10- 7	Cu	6- 4	
13	736.9	9.6	68	15.7	1.6	T	3.7	..	0	N	4	NW	12	NW	9	ACu; Cu	1- 6	ACu; Cu; Nb	7-10	Dew early; heavy rain in evening
14	733.6	9.7	78	13.0	7.3	0.73	5.8	WSW	5	WSW	12	WSW	14	WSW	2	Cu; Nb	7-10	Cu; Nb	7-10	Light rain throughout
15	743.6	9.9	87	15.6	3.7	0.07	3.2	..	0	NNW	1	W	1	..	0	ACu; ASt; Cu; CuNb	4- 6	ACu; ASt; Cu; CuNb	4- 6	Possibly dew early; occasional light showers during day
16	746.1	10.6	83	17.7	3.0		7.4	..	0	NNW	1	N	2	..	0	ACu	9- 4	ACu	4- 6	Dew early, and at 21h
17	742.0	12.8	63	16.7	3.3		4.7	..	0	..	0	W	11	NNW	5	CiSt; Cu	1- 6	Cu; CuNb	7-10	Dew early; showers at night
18	741.8	13.2	78	15.9	11.3	0.22	4.1	SW	5	SW	4	SW	10	..	0	Cu; StCu; CuNb	4- 7	Cu; StCu; CuNb	4- 6	Dew early; rain in am and pm
19	741.2	12.1	93	16.6	6.8	0.04	4.2	..	0	NW	2	W	14	WNW	3	Cu; FrCu; StCu	7-10	Cu; StCu; CuNb	7-10	Dew early; slight rain in pm
20	742.3	14.5	73	18.2	9.5	0.07	4.4	W	5	SW	7	SW	5	..	0	Cu; FrCu; StCu	4- 6	Cu; StCu; CuNb	7-10	Dew early, and in evening
21	742.5	13.5	88	16.5	7.5		2.1	..	0	NNW	2	SW	6	SW	1	CiSt; Cu; Nb	4- 7	CiSt; Cu; Nb	7-10	Dew early
22	745.4	11.5	92	16.1	4.5	0.05	0.6	..	0	..	0	E	3	ESE	2	Cu; CuNb	4-10	Cu; StCu; CuNb	4-10	Clear in evening
23	746.4	13.7	62	22.1	4.4		10.0	SE	1	..	0	NE	2	SE	3	CiCu; CiSt	1- 6	CiCu; CiSt	4- 6	Dew early
24	743.7	18.4	46	25.6	7.0		6.4	SE	1	NNE	3	NNE	3	NNE	2	CiCu; StCu	1- 6	StCu; CuNb	4- 6	Rain after 20h5
25	740.4	15.5	85	21.1	10.7		5.0	NNW	1	..	0	S	5	SSW	4	CiCu; Cu; StCu	4- 7	CiCu; Cu; StCu	7- 8	Fog early
26	742.5	14.5	75	17.6	12.2		2.4	S	6	SSW	6	SW	9	..	0	StCu; CuNb	7-10	Cu; StCu; CuNb	4- 6	
27	745.0	12.5	74	15.3	8.0	0.04	1.2	S	4	ESE	3	..	0	SE	1	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	
28	741.5	11.2	61	17.7	5.4		1.8	..	0	..	0	WSW	4	..	0	Ci; CiCu; StCu	7-10	Cu; StCu; CuNb	7-10	Rain at night
29	740.5	12.3	75	16.2	9.4	0.23	3.5	NNW	1	SSE	9	SSW	8	SW	2	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Light rain in pm
30	749.2	12.5	72	14.9	8.4	0.07	8.6	SW	1	SSE	12	S	9	S	6	Cu; StCu	4-10	Cu; StCu	4-10	Clear at night
31	755.4	8.5	66	13.8	2.1		8.9	SSE	1	ESE	9	ESE	12	SE	2	Cu; FrCu	4- 6	Cu; FrCu	3- 1	Dew early
SUM						1.91														
MEAN	744.0	12.0	75	17.3	6.1		5.4		1.4		3.7		5.9		1.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			⌈185	230	246	264	196	280	311	270	264	261⌋	279	220	≷194	160≷	174	169	172	178	189	195	194	184	191	190	216	1
2	✓			194	222	215	215	203	196	203	220	220	198	193	190	189	190	191	187	191	194	194	203	222	208	222	248	204	0
3	✓			250	248	272	287	324	320	318	313	313	306	254	214	217	213	214	213	190	210	202	223	224	229	236	234	251	0
4	✓	✓	✓	242	248	247	254	293	319	325	315	275	215	221	201	183	162	169	166	183	200	201	187	188	196	196	221	225	0
5	✓	✓	✓	227	218	226	236	239	252	259	248	279	294	301	303	269	241	227	226	224	223	202	207	189	195	208	182	236	0
6	✓	✓	✓	188	180	184	201	215	222	259	294	333	308	295	291	269	239	231	223	224	223	208	216	249	248	240	240	241	0
7	✓	✓	✓	234	236	236	240	241	261	276	283	304	320	322	296	275	242	202	200	193	195	200	171	139	149	165	169	231	0
8	✓	✓	✓	169	169	177	178	196	211	221	231	235	220	223	224	234	215	201	213	214	190	⌈162	140	145⌋	179	187	213	198	0
9				229	234	239	260	289	302	300	301	280	255	231	209	207	204	202	202	197	196	189	227	248	230	222	235		0
10				240	250	239	234	228	237	239	234	283	217	223	204	200	193	189	190	193	198	206	221	230	248	266	282		0
11	✓			301	292	293	301	318	306	302	297	250	214	211	206	198	≷184	184	176	125	172≷	165	169	171	177	177	179	224	1
12	✓	✓		201	197	188	177	194	193	195	209	201	188	178	155	154	149	151	152	146	140	145	141	130	137	143	165	168	0
13				191	210	236	276	274	277	273	286	273	252	197	173	—	—	—	—	—	—	—	—	—	—	—	—		1
14				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	≷183	174≷	178	179	177	177	184		1
15	✓	✓	✓	191	191	193	204	206	214	236	282	300	288	236	204	206	198	193	183	184	189	201	209	⌈172⌋	214	239	268	217	0
16	✓	✓	✓	⌈167	185	241	236	235	227	248⌋	349	352	324	252	201	182	165	152	156	165	178	174	177	191	206	203	200	215	0
17	✓	✓		≷220	203≷	204	226	229	236	273	294	275	229	173	152	152	152	154	156	162	171	176	171	157	154	158	162	193	1
18	✓			139	156	158	148	145	151	154	163	171	177	171	174	172	176	172	174	177	171	180	185	196	200	217	215	173	1
19	✓	✓		211	≷184≷	224	217	203	213	217	216	226	213	≷200≷	187	174	168	161	171	176	177	183	185	184	189	185	177	193	1
20				171	184	189	177	174	177	184	180	185	176	179	184	187	177	183	178	177	183	187	194	214	—	—	—		0
21				—	—	—	—	—	—	—	—	—	—	—	—	—	—	190	189	188	189	189	188	193	191	207	209		1
22	✓	✓	✓	215	211	⌈176	211	183	229	268	315⌋	(279	242)	203	185	198	188	201	215	231	233	226	206	204	189	155	183	214	0
23	✓	✓	✓	188	200	224	235	239	259	248	280	289	285	295	259	213	198	193	187	196	201	211	190	177	184	166	161	220	0
24	✓			211	248	239	246	264	298	308	302	294	272	260	254	241	236	237	229	235	249	234	198	≷127	182	222	240≷	243	1
25	✓			234	239	243	247	≷148	179	172	125	206≷	246	242	237	223	226	217	266	265	230	204	177	161	158	152	154	206	1
26	✓	✓	✓	146	150	154	166	174	177	173	177	172	172	171	177	174	172	169	178	185	179	178	190	196	206	221	189	177	0
27	✓	✓	✓	176	167	155	165	172	174	177	188	188	172	167	171	163	169	182	177	188	187	189	196	187	146	152	151	173	0
28	✓			144	174	195	206	211	210	224	248	286	256	258	256	211	191	188	189	≷158≷	188	194	208	230	235	236	≷226≷	213	1
29	✓			≷98	163	115≷	191	201	204	177	166	178	165	167	172	177	179	174	178	166	166	165	167	163	178	178	166	169	1
30	✓	✓	✓	173	177	180	183	188	189	194	168	152	145	143	144	141	145	151	150	146	148	146	152	152	152	144	133	158	0
31	✓	✓		122	120	128	137	152	166	182	189	179	163	173	171	173	155	163	160	166	166	169	169	⌈137	105	114	130⌋	154	0
MEANS * 25 DAYS				193	200	205	215	215	227	237	246	249	235	224	210	199	189	186	188	186	190	188	185	179	184	188	192	205	
MEANS † 16 DAYS				192	190	196	204	210	221	234	252	252	236	222	208	198	185	181	182	186	188	186	182	175	178	180	184	201	
MEANS ‡ 12 DAYS				193	194	199	209	215	228	240	261	263	249	236	221	209	194	189	190	194	196	192	187	182	189	190	192	209	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 276

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[124	153	154	159	134	219	256	219	211	225]	246	183	}162	157}	139	138	132	120	126	132	121	114	112	133	161	1
2	✓			117	120	157	169	122	131	113	132	148	145	145	157	154	155	157	146	138	130	107	126	145	142	138	171	140	0
3	✓			176	168	207	206	227	262	289	252	261	247	188	170	146	162	155	154	135	146	136	153	152	158	150	161	186	0
4	✓	✓	✓	166	181	163	155	162	172	182	208	195	149	177	159	155	136	135	124	152	157	151	131	130	138	138	154	157	0
5	✓	✓	✓	147	148	150	152	163	169	190	192	224	245	247	261	234	199	186	170	175	182	154	152	137	145	147	128	179	0
6	✓	✓	✓	133	135	132	138	162	159	190	214	266	246	246	249	230	198	181	187	174	177	151	154	187	192	186	190	187	0
7	✓	✓	✓	178	179	187	185	180	191	213	218	244	261	273	257	237	211	178	165	153	150	146	125	102	108	124	134	183	0
8	✓	✓	✓	134	121	127	125	139	158	170	187	203	198	202	213	218	198	192	192	187	162	[128	97	125]	157	162	187	166	0
9				195	188	196	213	223	232	244	—	—	—	—	—	—	—	174	174	172	148	150	181	195	180	177	191		0
10				190	200	189	179	172	179	179	186	—	—	—	—	—	166	164	166	165	154	162	169	182	204	215	222		0
11	✓			247	223	223	232	243	233	255	245	222	186	186	183	182	}183	165	181	199	155}	125	122	95	107	86	98	182	1
12	✓	✓		101	98	91	70	78	80	100	112	147	147	141	126	119	120	114	103	93	89	95	88	79	86	88	101	103	0
13				139	154	172	207	183	206	203	217	232	212	175	152	146	(147	146)	141	147	154	149	}158	128	—	168}	133		1
14				116	}126	106	116	111	126	122	112	137}	129	141	}128	97	—	—	134	115	114	124	112	111}	109	101	122		1
15	✓	✓	✓	126	119	114	109	135	124	157	183	223	221	189	167	165	163	169	166	150	147	129	133	[111]	140	173	184	154	0
16	✓	✓	✓	[143	151	203	178	185	191	211]	306	321	296	232	189	163	146	125	125	129	128	127	128	157	163	147	154	179	0
17	✓	✓		}151	142}	136	133	160	168	202	208	201	195	157	152	156	156	150	145	139	136	134	140	134	116	111	126	152	1
18	✓			150	134	104	95	93	103	104	103	121	132	139	147	142	147	141	141	133	125	116	122	122	132	159	153	127	1
19	✓	✓		145	}115	139}	159	136	126	137	151	179	179	}185}	172	157	157	155	157	146	148	137	141	142	136	134	133	149	1
20				134	133	136	133	129	125	109	125	131	135	147	153	156	153	149	150	145	132	127	126	146	162	174	172		0
21				175	198	171	194	203	210	207	168	171	177	—	—	—	—	—	—	146	145	139	128	113	121	145	145		1
22	✓	✓	✓	140	141	[116	153	142	211	224	244	(203)	202	181	167	177	174	193	195	205	197	191	163	145	130	115	128	172	0
23	✓	✓	✓	142	164	176	189	180	191	202	224	268	265	273	241	202	173	167	158	159	148	146	122	126	132	125	117	179	0
24	✓			154	184	189	176	211	243	258	257	244	236	234	225	226	217	206	197	199	217	199	171}	164	189	219	215}	210	1
25	✓			205	195	216	217	}152	146	136	90	181}	210	207	206	205	205	198	240	236	197	168	148	127	123	122	119	177	1
26	✓	✓	✓	119	122	120	125	117	123	128	123	138	136	139	145	142	140	140	138	136	127	126	132	132	154	160	136	135	0
27	✓	✓	✓	123	127	116	121	121	119	113	126	158	150	157	147	148	165	(156)	152	146	150	156	153	125	105	107	103	135	0
28	✓			96	120	140	151	141	157	175	184	228	198	220	222	188	175	162	159	}167}	157	154	151	}166	171	175	176}	168	1
29	✓			}126	173	173}	121	138	133	137	145	163	149	153	165	159	158	151	}158}	139	134	126	121	106	115	126	126	141	1
30	✓	✓	✓	122	111	114	112	114	112	123	128	134	126	119	116	121	126	128	125	125	116	114	116	122	112	108	96	118	0
31	✓	✓		84	77	69	81	105	119	121	142	159	141	153	156	163	155	151	147	148	149	135	113	[91	62	77	85]	120	0
MEANS * 25 DAYS				142	144	149	148	150	162	175	184	202	195	192	183	174	167	160	159	156	150	139	133	130	133	136	140	158	
MEANS † 16 DAYS				135	133	134	137	142	151	166	185	204	197	192	182	174	164	158	153	151	148	139	130	128	130	131	135	154	
MEANS ‡ 12 DAYS				139	142	143	145	150	160	175	196	215	208	203	193	183	169	162	158	158	153	143	134	133	140	141	143	162	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 277

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	⌈124	112⌋	99	112	108	91	90	86	80	84	82	84	78	79	74	73	76	75	68	63	74	94	76	78	86	0
2	✓	✓	✓	78	64	67	58	70	52	50	54	62	74	69	70	74	78	78	89	86	84	82	80	57	53	56	53	68	0
3				56	63	63	65	56	Z	N 42	Z	N 22	N 54	91	75	69	Z	N 77	N 64	82	N 32	Z-	Z-	-50	-67	68	—		2
4				—	—	—	—	—	—	—	—	79	78	76	67	52	58	63	57	58	57	58	56	—	—	—	—		0
5				—	—	—	—	—	—	—	—	—	59	64	68	72	68	71	77	89	81	81	82	87	90	88	83		0
6	✓	✓		89	80	72	80	86	73	77	81	88	94	100	103	108	101	98	106	96	99	92	93	110	⌈153	190	177⌋	102	0
7	✓	✓		⌈156	137	149	172	146	136	136⌋	91	71	63	59	60	63	71	76	76	81	81	82	93	⌈135	152	136	116⌋	106	0
8	✓	✓		⌈152	167	161	143	127⌋	101	90	93	73	64	76	76	82	94	93	86	94	74	64	72	79	75	70	71	95	0
9	✓	✓	✓	64	63	68	67	57	52	49	63	72	69	76	84	76	81	86	87	78	77	68	55	50	61	49	54	67	0
10	✓			65	64	70	72	⌈77	88	105	96⌋	95	90	91	89	97	93	98	100	117	116	110	120	113	108	103	99	95	0
11				95	100	90	—	—	—	—	77	(76	76)	76	82	76	81	91	94	82	82	83	80	76	78	83	79		0
12	✓			68	73	70	72	67	52	61	65	94	90	83	73	86	78	87	86	88	80	81	90	91	88	89	102	80	0
13	✓			93	97	⌈126	138	168	164	119	95⌋	89	84	87	91	96	98	105	107	105	125	73	83	98	100	107	114	107	0
14	✓			118	118	109	95	88	72	78	68	64	74	83	80	87	82	82	90	92	91	81	86	⌈116	120	118	121⌋	92	0
15	✓	✓	✓	⌈129	155	138	119	110⌋	83	71	63	67	68	78	72	76	86	90	95	82	73	⌈61	81⌋	86	87	65	79	88	0
16	✓	✓	✓	81	79	78	⌈70	75	62	46	58⌋	56	63	68	70	74	78	79	82	97	91	89	81	74	76	89	96	76	0
17	✓	✓	✓	98	86	98	80	63	59	56	57	61	68	65	68	65	69	⌈83	108	105⌋	80	77	81	81	113	112	122	81	0
18	✓			125	120	121	125	131	118	118	84	93	98	86	90	88	97	101	110	100	95	82	88	91	90	102	111	103	0
19	✓	✓	✓	108	127	128	121	103	102	96	105	99	89	106	99	97	103	95	117	103	102	103	111	108	113	111	115	107	0
20	✓	✓	✓	126	142	144	133	105	92	109	88	91	97	94	84	80	87	93	97	107	98	91	94	106	108	110	112	104	0
21				⌈144	181	190	186	166	143	129	117⌋	95	79	83	86	97	97	92	90	88	114	110	110	122	—	—	—		0
22				—	—	—	—	—	—	—	⌈125⌋	91	84	82	76	79	80	86	78	81	81	87	97	110	115	140	137		0
23	✓	✓	✓	132	127	137	137	82	70	108	112	94	94	88	86	81	86	90	79	87	99	98	94	79	76	81	97	96	0
24	✓			100	103	192	188	165	124	111	98	96	82	72	78	80	84	86	86	91	91	95	100	99	120	125	128	108	0
25				137	134	130	131	125	112	94	97	81	89	83	81	81	N 57	Z	115	134	101	96	95	95	103	112	108		1
26	✓			116	128	86	105	99	71	75	94	88	97	101	105	110	105	109	103	93	95	103	108	103	118	124	128	103	0
27	✓			⌈153	127	122	116	155	170	162⌋	106	99	92	94	88	87	96	91	92	88	76	⌈87	112	112	103	109	137⌋	111	0
28	✓			⌈151	158	154	150	113	197	186	111⌋	70	63	63	72	71	69	82	78	76	91	89	75	57	64	68	63	99	0
29	✓			65	72	70	54	44	39	37	45	54	65	73	77	73	80	84	97	107	118	110	116	113	115	N 86	120	80	1
30	✓			165	183	138	148	121	128	109	89	84	77	80	80	84	92	84	87	89	89	91	87	80	67	63	45	98	0
31																													
MEANS * 23 DAYS				111	112	113	111	103	95	93	83	80	80	81	82	83	86	89	93	93	91	86	90	92	98	97	102	94	
MEANS † 12 DAYS				111	112	112	108	94	81	82	79	76	77	80	80	80	84	86	91	91	86	81	83	87	97	95	98	90	
MEANS ‡ 9 DAYS				104	106	106	100	86	74	75	76	76	78	81	80	78	83	85	92	91	87	82	82	79	87	83	90	86	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 278

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	756.8	9.0	64	16.5	3.0		10.5	E	4	ENE	9	E	9	ESE	1		0		0	Dew early
2	750.4	13.6	42	20.3	2.2		10.5	..	0	NNW	3	WNW	3	..	0		0		0	
3	742.2	8.8	89	14.0	4.0	0.20	2.6	NW	1	SSW	6	SW	7	SW	10	CuNb; Nb	7-10	CuNb; Nb	7-10	Rain in early hours and through day and evening
4	746.7	10.9	81	15.1	8.3	0.21	1.6	SSE	6	S	4	..	0	SSE	1	ACu; ASt	7-10	ACu; ASt	7-10	
5	749.8	11.5	74	18.3	3.2		8.6	..	0	..	0	..	0	S	2	CiSt; ACu	7- 9	CiSt; ACu	6- 4	Dew early; clearing at night
6	749.3	13.0	69	20.4	4.6		10.2	SSE	1	E	4	ESE	1	SSE	4	CiSt	0- 1		0	Dew early
7	748.4	14.0	60	24.1	4.5		10.0	..	0	..	0	..	0	SSE	2		0		0	Dew early
8	746.9	18.2	46	27.7	7.5		10.2	S	1	..	0	NNE	6	..	0		0		0	Dew early
9	743.3	20.7	20	29.6	8.6		10.4	NW	1	N	7	WNW	12	NW	1		0		0	
10	745.0	15.7	75	18.7	6.7		6.1	NW	1	SSW	6	S	6	S	2	Cu; FrCu	5-10	Cu; FrCu	7-10	Clear in evening
11	747.4	12.7	61	16.3	1.5		10.0	S	2	E	1	SSW	4	SSW	1		0		0	Dew early
12	745.7	13.7	70	18.1	3.0	0.03	5.0	..	0	S	5	S	9	S	2	ACu; Cu	4- 8		4- 6	Rain in early hours; clear in evening; dew at 21h
13	748.8	12.3	68	18.9	3.4		10.6	SSE	1	E	8	ESE	7	SE	2	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Dew early; clear in evening
14	750.7	13.0	51	20.7	4.4		10.6	SE	3	ENE	6	E	8	SE	4		0		0	
15	749.9	17.6	46	26.1	5.5		10.7	SE	2	NE	9	N	5	SSW	3		0		0	Thin haze over sky, or smoke
16	747.3	19.4	31	27.9	4.4		10.6	..	0	N	4	NW	4	..	0		0		0	Dew early
17	742.3	21.0	39	29.4	4.5		10.4	..	0	..	0	WSW	9	..	0		0		0	Thin haze or smoke over sky
18	742.2	15.0	62	18.1	9.8	T	5.4	SW	4	SSW	10	SSW	11	S	3	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	Occasional showers
19	746.1	13.0	55	18.5	5.5	T	7.6	..	0	ESE	3	SSE	4	SSW	2	Cu; StCu	7- 8	Cu; StCu	6- 1	
20	748.2	14.6	53	19.4	2.0		8.4	SSW	1	..	0	S	4	S	2	ACu; FrCu	1- 3	ACu; FrCu	1- 3	Dew early; clear at night
21	747.4	14.5	64	23.4	4.4		10.9	S	2	..	0	SW	1	S	6		0		0	Thin haze over sky during day; mist in late evening
22	742.2	15.7	56	25.9	5.3	T	10.2	SE	1	SE	5	SSE	2	S	5	ACu; ASt	1- 8	ACu; ASt	4- 6	Dew early, possibly mist
23	736.8	15.5	57	23.8	8.0		9.5	S	4	ESE	10	S	1	..	0	Ci; Cu	1- 3	Cu	4- 8	
24	737.9	15.5	62	19.3	8.8	T	6.7	W	2	WSW	11	SW	11	SW	2	Cu; CuNb	7- 8	Cu; CuNb	7- 8	Occasional light showers
25	744.4	13.5	60	17.8	5.7	0.01	5.5	SW	3	S	3	S	7	SSW	2	ACu; Cu; FrCu	7- 8	ACu; Cu; FrCu	6- 1	
26	747.4	13.6	54	19.2	3.2		9.5	..	0	E	3	SE	4	S	4		0		0	Dew early
27	747.6	15.0	63	22.8	3.3		10.9	..	0	E	2	ESE	1	S	5		0		0	Dew early
28	745.3	19.0	39	28.1	3.0		10.5	S	1	N	2	WNW	2	..	0	CiSt	1- 8	CiSt	8- 1	Mist early; clear in evening
29	739.5	20.9	33	26.8	3.5		10.6	..	0	NW	1	NNW	16	WNW	1		0		0	
30	743.7	13.6	66	17.2	7.8	0.08	6.4	SW	7	S	8	SSW	9	SW	1	CiSt; ASt; Cu	7- 8	CiSt; ASt; Cu	4- 6	Rain in early hours or late previous night
31																				
SUM						0.53														
MEAN	746.0	14.8	57	21.5	5.0		8.7	1.6		4.3		5.4		2.3						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 279

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	⌈140	163⌋	209	195	201	231	246	248	257	233	226	224	229	228	220	233	240	214	209	209	217	204	213	227	217	0
2	✓	✓	✓	261	291	295	325	304	349	359	355	310	249	221	204	201	194	195	189	177	183	179	182	⌈209	214⌋	223	231	246	0
3	✓			234	242	249	292	314	≷306	254	157≶	173	183	173	173	165	≷155	(177)	173	179	165	143	110	148	151≶	167	160	193	2
4	✓			146	139	145	156	171	166	180	189	194	200	194	198	201	208	203	204	211	201	190	184	194	187	195	191	185	0
5	✓			203	208	209	215	234	276	294	272	210	195	187	188	187	180	188	189	187	177	178	178	185	180	187	193	204	0
6	✓	✓		188	193	202	194	191	196	193	200	179	172	171	157	165	174	179	178	172	160	154	163	165	⌈125	100	102⌋	170	0
7	✓	✓		⌈119	114	106	98	103	109	125⌋	180	227	248	261	265	244	235	218	201	197	183	174	173	⌈138	109	108	110⌋	169	0
8	✓	✓		⌈110	110	117	138	166⌋	208	231	256	300	285	259	217	206	190	189	177	176	177	183	193	202	217	257	272	202	0
9	✓	✓	✓	292	315	327	342	349	356	359	342	286	251	217	203	203	(194)	176	180	191	206	224	242	255	270	297	298	266	0
10				291	277	254	235	⌈200	163	155	174⌋	172	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
11																													
12																													
13																													
14				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	155	150	144	161	160	⌈130	135	134	138⌋		0
15	✓	✓	✓	⌈140	141	162	186	230⌋	251	285	322	281	247	236	228	216	214	205	206	211	218	⌈201	220⌋	235	247	263	262	225	0
16	✓	✓	✓	260	262	284	⌈298	259	252	269	315⌋	337	314	267	218	209	201	205	204	209	205	210	221	240	242	238	235	248	0
17	✓	✓	✓	236	253	239	233	301	318	304	308	287	232	209	209	197	196	(195	194	192)	191	190	198	190	172	169	158	224	0
18				156	163	166	164	161	170	177	179	168	164	155	157	158	154	158	(161)	167	170	165	168	168	171	170	172		0
19	✓	✓	✓	178	180	185	195	207	200	211	190	176	162	151	157	170	169	163	163	156	150	153	163	168	169	177	174	174	0
20	✓	✓	✓	165	160	164	⌈180	194	195	147	210	190⌋	179	170	163	164	161	157	150	146	151	160	169	176	180	176	166	170	0
21	✓			⌈135	120	120	125	137	142	149	162⌋	199	220	213	211	199	192	190	191	192	175	170	168	154	159	158	163	168	0
22	✓			⌈152	134	124	103	115	125	142	168⌋	197	215	221	217	211	211	211	205	192	190	181	154	138	135	130	133	167	0
23	✓	✓	✓	130	146	163	186	190	190	188	193	198	192	196	191	198	(196	195)	208	189	173	143	165	176	189	199	203	183	0
24				202	≷199	168	175	177≶	178	181	178	171	168	167	170	169	168	169	167	160	160	167	169	167	174	170	168		0
25				178	179	188	184	189	189	—	—	—	167	163	160	147	≷149	124≶	157	157	156	157	160	168	175	178	189		1
26				188	188	215	191	195	220	241	218	188	168	158	157	136	140	168	179	167	157	157	153	155	140	140	124		0
27				⌈105	124	117	119	94	83	123⌋	164	168	171	171	177	178	173	176	176	178	171	⌈157	130	128	145	147	133⌋		0
28				⌈125	130	131	130	131	69	102	163⌋	244	277	280	251	235	229	215	207	206	197	192	195	220	232	247	257		0
29				258	254	287	325	359	372	427	411	344	285	221	196	199	186	171	163	152	144	148	145	156	153	≷143	177≶		1
30				149	145	148	155	154	162	180	186	165	167	166	164	156	154	156	162	165	167	173	177	181	210	235	270		0
31																													
MEANS * 17 DAYS				182	187	194	204	216	228	232	239	235	222	210	201	198	194	192	191	189	183	179	182	188	185	192	193	201	
MEANS † 12 DAYS				185	194	204	214	225	238	243	260	252	230	215	203	200	196	191	190	188	184	182	192	198	195	202	203	208	
MEANS ‡ 9 DAYS				200	212	225	238	248	260	263	276	258	229	210	200	199	195	190	192	190	188	185	197	207	210	217	217	217	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 280

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	[93	127]	177	173	167	204	214	225	241	225	220	229	232	226	216	230	226	197	178	173	168	138	170	187	193	0
2	✓	✓	✓	209	247	262	294	277	320	325	332	295	245	221	204	205	192	186	182	172	164	145	142	[160	165]	209	214	224	0
3	✓			215	210	223	265	286	≷294	249	188≶	168	148	149	157	157	(159)≷	172	158	147	148	178	174	159	180≶	150	132	186	2
4	✓			127	114	111	121	137	141	147	147	175	170	171	171	180	178	173	176	168	165	163	154	142	128	140	137	152	0
5	✓			164	167	171	177	198	230	242	214	171	169	157	150	158	159	158	149	148	148	134	142	143	140	143	143	166	0
6	✓	✓		136	141	147	150	149	153	157	161	163	161	155	137	146	143	140	134	129	109	116	123	127	[91	70	74]	134	0
7	✓	✓		[82	52	64	57	65	84	87]	127	191	214	220	237	223	194	181	170	172	148	138	136	[99	83	79	86]	133	0
8	✓	✓		[75	63	74	96	128]	156	185	219	275	261	241	205	186	170	159	157	144	145	130	149	157	142	178	233	164	0
9	✓	✓	✓	274	305	312	337	359	356	366	312	262	247	200	190	194	184	(175)	174	188	202	199	216	233	238	254	282	252	0
10				274	243	201	194	[147	102	119	131]	137	148	156	145	141	138	135	136	128	122	108	106	114	124	130	133		0
11				150	137	150	141	142	164	189	164	165	128	161	148	148	153	148	138	133	122	117	124	133	137	146	160		0
12				194	214	228	202	234	261	210	177	150	161	160	164	159	167	156	154	154	148	141	132	129	136	137	135		0
13				132	116	[102	97	67	73	100	145]	172	189	153	130	126	109	106	113	107	116	134	106	103	111	106	108		0
14				113	115	138	169	201	207	214	260	272	245	205	200	156	167	154	145	147	132	126	120	[88	90	97	104]		0
15	✓	✓	✓	[95	82	103	126	164]	215	265	287	265	241	230	225	213	208	197	191	189	181	[162	175]	201	202	216	196	193	0
16	✓	✓	✓	205	225	229	[233	220	245	229	274]	342	325	272	222	209	208	204	203	189	181	167	175	189	190	180	181	221	0
17	✓	✓	✓	184	174	205	266	260	308	294	275	263	213	201	205	201	(190)	[176	83	87]	159	155	151	159	(144	142	132)	193	0
18				—	—	—	—	—	—	—	—	—	134	134	135	137	135	131	133	130	126	130	128	127	128	127	120		0
19	✓	✓	✓	118	87	88	101	126	129	138	153	155	155	143	148	163	158	150	146	137	131	127	120	122	116	117	119	131	0
20	✓	✓	✓	123	102	97	[100	114	146	113	168	163]	164	171	172	172	158	151	148	133	132	124	132	126	140	129	119	137	0
21	✓			[86	63	70	64	76	87	95	122]	170	194	184	183	172	178	170	167	161	146	145	141	119	127	133	127	132	0
22	✓			[115	83	67	59	57	63	86	131]	181	202	203	204	195	201	197	190	181	168	158	128	115	108	95	89	136	0
23	✓	✓	✓	(90	105	111	145	147	146	134	169	192	183	171	168	173	177	171	(177)	181	162	127	135	143	165	(175	180)	155	0
24																													
25																													
26																													
27																													
28																													
29																													
30																													
31																													
MEANS * 17 DAYS				141	138	148	163	172	193	196	206	216	207	195	189	187	181	175	167	162	158	150	151	151	147	158	155	171	
MEANS † 12 DAYS				140	142	156	173	181	205	209	225	234	220	204	195	193	184	176	166	162	159	147	152	157	151	160	167	177	
MEANS ‡ 9 DAYS				155	162	176	197	204	230	231	244	242	222	203	196	196	189	181	170	167	168	154	158	167	166	177	179	189	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 281

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			45	54	50	56	54	50	61	73	88	99	105	109	116	109	113	107	110	109	110	108	112	101	103	108	90	0
2	✓			131	150	129	134	130	101	90	83	79	80	76	71	70	71	83	78	88	87	98	⌈147	167	168	183	188⌋	112	0
3	✓			⌈184	172	148⌋	130	119	88	69	60	52	61	78	89	86	83	83	83	84	86	69	68	87	107	121	130	97	0
4	✓			144	158	156	⌈325	367	176⌋	131	124	119	98	95	84	71	82	95	90	91	79	74	94	71	84	98	95	125	0
5				≷ 87	N 90	N 87	120≷	91	88	83	90	84	90	98	≷ 77	80	N 52	N 61	Z	N 82	N 8	N 59	N111	Z	117	N 93≷	115		1
6	✓	✓	✓	105	≷ 114	109≷	118	124	105	99	95	88	94	88	64	71	70	79	80	89	90	90	95	109	111	103	102	96	0
7	✓	✓	✓	111	102	111	120	130	114	94	74	74	88	93	99	100	101	107	103	105	100	95	109	116	124	132	148	106	0
8	✓	✓	✓	121	111	89	87	75	64	68	71	73	77	81	87	80	87	90	91	86	84	74	75	79	89	96	82	84	0
9	✓	✓	✓	77	75	79	74	67	62	77	80	83	90	92	88	80	77	87	75	70	73	⌈ 45⌋	68	64	78	77	68	75	0
10				65	71	64	58	≷N 55	−2	N 46	Z	Z ≷	45	51	53	69	71	65	≷ 50	N 1	56≷	61	≷ Z	63	76	93≷	68		1
11	✓	✓	✓	61	62	62	48	49	50	45	51	55	53	56	59	64	74	77	76	81	82	76	62	77	73	64	55	63	0
12	✓	✓		51	64	69	≷ 246	99≷	87	107	90	80	78	79	77	82	83	81	80	87	73	79	72	103	119	127	127	93	0
13	✓	✓	✓	135	⌈108	79	96⌋	119	109	121	105	98	93	77	79	91	89	96	105	107	107	107	105	106	111	117	114	103	0
14	✓	✓	✓	103	111	144	146	147	129	105	70	59	65	63	65	70	80	75	68	74	77	76	101	119	125	132	124	97	0
15				122	133	130	128	105	96	83	88	89	84	78	83	86	86	93	77	84	≷N 99	Z−	N 31	N 36≷	110	114	100		1
16	✓	✓	✓	113	126	136	132	121	109	96	87	90	89	99	93	83	78	87	88	89	93	83	90	95	100	109	112	100	0
17	✓	✓	✓	103	99	100	96	94	81	83	73	75	81	83	82	84	87	89	87	93	100	106	116	100	97	108	134	94	0
18	✓	✓	✓	154	153	143	140	120	99	81	55	52	58	50	61	59	69	61	63	62	64	72	78	89	114	135	122	90	0
19	✓	✓	✓	121	120	117	102	81	69	68	51	45	55	64	73	73	74	82	⌈114	102⌋[	73]	82	88	99	89	99	118	86	0
20	✓	✓		98	90	83	≷ 110	88	89	N 48≷	68	64	60	75	67	65	50	62	69	59	64	68	72	71	80	61	51	71	1
21	✓	✓	✓	51	68	73	80	76	71	62	65	70	61	56	70	79	83	94	94	93	90	94	101	111	110	108	93	81	0
22	✓	✓	✓	99	101	103	89	86	75	73	74	87	76	79	93	92	90	88	100	88	84	86	86	90	97	87	84	88	0
23	✓	✓	✓	93	68	71	73	75	81	79	69	58	63	62	68	70	68	69	81	80	80	73	77	80	91	119	129	78	0
24	✓	✓	✓	127	127	135	128	114	87	98	89	65	56	58	64	72	67	71	80	84	93	88	93	102	109	111	126	94	0
25	✓			120	113	113	101	92	77	78	82	86	76	79	80	83	74	76	73	71	71	78	81	89	111	118	122	89	0
26	✓	✓	✓	124	154	145	130	117	102	95	80	72	82	83	79	89	83	83	87	86	84	90	94	99	108	109	113	100	0
27	✓	✓	✓	117	119	117	106	87	71	64	58	58	54	57	63	67	73	75	80	77	77	68	80	103	102	95	88	81	0
28				90	73	76	75	64	54	70	91	94	93	102	105	100	98	102	106	101	96	110≷	Z	Z	Z	Z	120≷		1
29				≷ Z ≷	—	—	—	—	—	—	—	—	≷ 46	41	46	112	83	86	98	56	N 70≷	133	116	127	132	⌈173	243⌋		1
30	✓			⌈268	264	288	275	188	129	135	200⌋	88	90	80	67	80	75	61	98	92	105	112	125	129	124	137	116	139	0
31	✓	✓		97	⌈191	140	183⌋	73	58	59	60	74	65	72	89	105	108	132	117	103	106	111	129	140	139	148	154	111	0
MEANS * 26 DAYS				114	118	115	128	111	90	84	80	74	75	76	78	80	80	84	87	87	86	85	93	100	106	111	112	94	
MEANS † 20 DAYS				103	108	105	115	97	86	81	73	71	72	73	76	79	80	84	87	86	85	83	90	98	103	107	107	90	
MEANS ‡ 17 DAYS				107	107	107	104	99	87	83	73	71	73	73	76	78	79	83	87	86	85	83	89	96	102	106	107	89	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 282

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	747.7	14.6	59	20.5	3.1		9.8	..	0	E	3	ESE	2	SSE	4	ACu; ASt; Cu	6- 8	ACu; ASt; Cu	7- 8	Clear in evening
2	747.2	16.2	56	25.6	5.5		7.6	SE	2	ESE	8	ESE	3	SSE	6	CiCu; CiSt; ASt	2- 8	CiCu; CiSt; ASt	7-10	Dew early
3	741.5	22.4	26	31.1	10.0		7.9	SE	4	ENE	1	NNE	5	SSE	3	CiCu; CiSt	3- 8	CiCu; CiSt; ASt	7- 8	
4	737.9	17.5	72	19.5	9.1	T	2.1	SE	1	S	8	SSW	14	WSW	4	Cu; StCu; Nb	9-10	Cu; StCu; Nb	10	Occasional light rains
5	737.6	13.5	64	16.3	8.5	0.04	4.6	W	2	WSW	16	W	20	SW	8	ASt; Cu; StCu; Nb	6-10	ASt; Cu; StCu; Nb	10	Rain during day and at night
6	743.3	12.5	58	17.4	1.0	0.17	7.7	SW	2	SE	9	S	7	SSW	2	ACu; ASt	1- 3	ACu; ASt	1- 3	Clear in evening
7	746.9	13.0	61	18.4	4.5		7.9	..	0	ESE	5	ESE	6	SSE	4	AST; Cu; Nb	10- 7	ASt; ACu; Cu	6- 1	Clear in evening; dew in early am
8	749.1	15.0	50	22.4	7.0		11.4	ESE	6	ENE	9	E	8	SE	3		0		0	
9	746.6	20.5	26	26.4	7.5		11.4	..	0	NNE	7	NNE	2	SE	2		0		0	
10	742.6	20.2	30	30.3	9.0		3.3	..	0	..	0	NNE	4	E	1	ASt; Cu; StCu; CuNb	5-10	Cu; StCu; CuNb	10	Few drops rain in pm; clearing in evening
11	739.5	24.3	26	29.8	14.3		10.9	..	0	NNW	2	N	7	..	0	ACu	1- 3	ACu	1- 3	
12	739.3	19.5	67	23.0	8.2	T	6.6	..	0	WNW	6	WSW	11	SW	5	Cu	10- 7	Cu	6- 1	Few drops rain in very early hours
13	743.5	15.2	73	19.9	9.7	T	4.8	..	0	SSE	3	S	4	S	4	ACu; ASt; FrCu	4- 9	ACu; ASt; FrCu	7- 8	Few drops rain in am
14	743.3	16.2	52	25.0	4.4		11.7	S	2	ENE	6	W	1	SSW	3	CiSt	1- 3	CiSt	1- 3	Dew early
15	738.8	16.6	55	21.4	7.5		4.8	S	2	SW	7	W	12	S	9	CiSt; ACu; StCu	7-10	Cu; StCu; CuNb	7-10	Dew early; rain in evening
16	745.3	11.5	52	16.7	5.0	0.24	8.6	S	4	ESE	8	S	8	S	3	ACu; CiCu	2- 6	CiCu; ACu	1- 3	Clear at night
17	747.6	14.0	49	20.9	3.3		10.8	S	1	ESE	4	SE	1	ESE	6	ACu	1- 3	ACu	1- 3	Dew early
18	744.0	19.1	39	27.2	5.7		11.9	SSE	2	E	2	NNW	1	SSE	4		0		0	Dew early
19	736.4	23.6	20	28.9	8.6		11.8	SSE	1	NNE	1	W	11	SW	1		0		0	
20	738.8	15.3	85	20.5	7.4	0.02	4.5	..	0	WSW	2	WSW	11	WSW	1	ACu; Cu; CuNb	5-10	ACu; Cu; CuNb	7-10	Light showers through day
21	741.4	16.5	65	20.6	8.2	0.01	6.1	..	0	SSE	6	SW	11	SSW	2	Cu; StCu; ACu	7- 9	ACu; Cu; StCu	7- 8	
22	743.9	16.6	51	21.3	7.6		7.8	SW	2	S	8	SSW	..	SSW	3	ACu; StCu	9- 7	ACu; FrCu	6- 4	Clearing in evening
23	744.0	18.5	53	26.1	7.1		11.8	S	1	E	6	..	0	S	4	CiCu	1- 3	CiCu	1- 3	Dew early
24	742.1	21.9	42	30.7	8.1		11.7	S	1	E	1	W	6	S	3		0		0	Dew early
25	742.0	18.0	51	23.9	11.8		8.5	S	1	SSE	5	S	8	S	6	CiSt; ACu; StCu	7-10	CiSt; ACu; StCu	7-10	
26	743.3	15.5	53	23.8	10.1		10.6	SSE	8	E	18	SE	12	SE	4	CiSt; CiCu; ASt	2- 8	CiSt; CiCu; ASt	7- 8	
27	741.8	18.0	38	28.3	9.5		11.7	ESE	9	ENE	10	ESE	2	SE	1	CiSt	0- 1	CiSt	0- 1	
28	736.3	24.5	26	31.4	11.0		8.8	NNE	2	N	10	WSW	14	SW	6	CiSt; FrACu	5- 8	ASt; Cu	7- 8	CuNb and Nb clouds in evening, with thunderstorm
29	736.1	16.0	73	20.4	11.5	0.04	0.6	WSW	2	..	0	..	0	SSW	2	ASt; CuNb; Nb	10	Cu; StCu; Nb	10	Rain in early hours; shower at 17h
30	737.3	18.9	71	20.6	12.2	0.05	1.7	..	0	SW	2	SW	7	..	0	Cu; Nb	10- 7	Cu; Nb	6- 1	
31	736.7	17.3	81	22.9	9.2	T	4.8	..	0	WNW	2	WNW	12	WNW	3	StCu; CuNb; Nb	10- 7	ASt; Cu; Nb	7- 8	Partly cloudy in evening
SUM						0.57														
MEAN	742.0	17.5	52	23.6	7.9		7.9	1.8		5.5		7.0		3.5						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 283

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				285	271	278	245	251	240	240	243	195	164	148	134	101	97	117	135	140	141	154	159	166	175	171	165		0
2				150	144	150	145	—	—	—	—	—	182	178	175	179	180	175	177	177	175	163	109	108	105	103	105		0
3				109	130	159	179	207	252	278	321	343	317	216	168	180	181	175	177	185	189	211	217	211	179	166	146		0
4				140	137	134	88	74	119	138	140	141	135	139	144	147	152	154	157	159	155	154	161	159	154	146	155		0
5	✓			186	172	164	166	165	178	177	178	172	162	155	141	152	142	136	128	126	147	154	149	128	160	156	168	157	1
6	✓	✓	✓	196	174	188	178	179	184	168	162	154	153	156	165	171	161	150	144	154	161	162	172	176	190	198	197	169	0
7	✓	✓	✓	201	196	191	182	177	178	198	213	214	184	167	155	152	142	143	142	137	138	148	129	120	131	131	130	162	0
8	✓	✓	✓	144	182	238	258	269	264	268	262	226	203	184	176	171	165	164	165	173	179	194	196	203	201	212	238	206	0
9	✓	✓	✓	263	273	280	297	304	301	284	258	191	189	180	174	174	174	168	168	174	179	196	185	207	220	207	232	220	0
10	✓			249	276	297	311	325	301	344	278	272	306	279	257	208	195	182	177	177	188	203	200	216	214	202	214	245	1
11	✓	✓	✓	237	259	266	308	321	309	311	309	278	270	262	246	198	177	165	160	150	146	154	174	189	214	213	242	232	0
12	✓	✓		247	202	202	134	154	170	134	144	153	167	173	166	160	155	149	144	142	142	146	143	152	150	152	160	160	0
13	✓	✓	✓	156	177	213	178	182	164	156	155	156	147	148	155	156	154	147	140	153	155	153	159	162	168	165	160	161	0
14	✓	✓	✓	165	154	129	135	138	141	161	212	249	251	232	212	195	194	191	194	185	166	160	140	124	130	124	130	171	0
15	✓			136	144	142	152	159	160	190	177	153	150	146	148	147	146	141	143	146	143	182	156	155	153	156	153	153	1
16	✓	✓	✓	147	142	153	153	160	173	180	167	150	137	108	118	143	140	136	106	118	148	148	150	165	174	176	179	149	0
17	✓	✓	✓	184	186	178	173	170	173	182	178	173	155	148	138	129	114	102	100	102	98	104	108	119	141	146	130	143	0
18	✓	✓	✓	118	117	125	130	142	161	189	244	270	251	250	244	224	218	204	195	182	177	164	158	161	135	117	120	179	0
19	✓	✓	✓	132	152	172	191	215	244	289	332	327	311	282	240	206	182	177	87	70	108	146	154	154	149	132	130	191	0
20	✓	✓		138	126	125	96	128	159	189	197	170	166	165	158	154	154	152	154	161	166	167	176	183	198	214	239	164	1
21	✓	✓	✓	258	232	210	194	202	201	200	179	166	165	165	164	161	158	158	160	158	165	166	156	166	167	179	192	180	0
22	✓	✓	✓	201	203	212	224	230	226	220	196	174	167	160	158	143	146	144	158	160	161	161	160	160	174	179	190	179	0
23	✓	✓	✓	195	201	186	179	174	161	160	191	225	224	200	180	158	162	165	154	150	153	176	177	177	167	142	136	175	0
24	✓	✓	✓	137	140	136	141	150	155	154	172	206	226	227	210	197	196	180	173	154	142	142	150	160	165	160	154	168	0
25				159	166	180	189	191	200	190	167	166	167	166	158	156	166	162	162	161	160	165	166	166	149	147	141		0
26	✓	✓	✓	136	123	135	166	166	179	184	171	167	168	154	150	144	131	136	140	143	142	147	152	160	166	176	176	155	0
27	✓	✓	✓	182	190	198	206	210	218	226	234	230	227	225	208	192	178	172	170	167	177	178	182	200	227	252	262	205	0
28				262	278	277	290	303	310	273	213	196	182	176	170	160	120	148	153	159	159	148	—	—	—	—	162		1
29				—	—	—	—	—	—	—	—	—	—	154	149	143	166	176	186	170	161	167	158	166	172	137	101		1
30				92	90	89	101	123	140	137	119	160	149	148	152	154	166	165	172	166	166	166	167	165	172	170	208		0
31	✓	✓		219	128	171	164	285	325	329	283	202	188	185	178	172	159	160	162	176	178	178	179	183	198	203	201	200	0
MEANS * 23 DAYS				183	180	187	188	200	205	213	213	203	199	189	180	170	163	157	151	150	155	162	161	166	174	174	180	179	
MEANS † 20 DAYS				181	178	185	184	198	204	209	213	204	197	189	180	170	163	158	151	150	154	160	160	166	173	174	180	178	
MEANS ‡ 17 DAYS				178	182	189	194	199	202	208	214	209	202	191	182	171	164	159	150	149	153	159	159	165	172	171	176	179	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 284

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1																													
2																													
3																													
4				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	126	125	126	137	131	123	127		0
5	✓			146	137	134	112	124	119	139	151	149	151	142	140	146	146	146	121	151	143	138	121	109	120	123	115	134	1
6	✓	✓	✓	120	114	127	123	114	127	140	145	146	147	156	172	171	163	149	140	149	146	134	126	128	133	142	144	140	0
7	✓	✓	✓	148	[120	133]	134	126	140	177	213	217	192	177	162	162	149	145	138	128	126	119	98	102	109	103	86	142	0
8	✓	✓	✓	103	146	227	250	237	251	264	266	236	214	200	183	180	168	161	162	167	172	165	153	164	157	166	185	191	0
9	✓	✓	✓	214	225	235	251	264	254	243	235	182	172	177	168	165	167	155	157	153	146	[167]	152	160	172	172	196	191	0
10	✓			210	226	243	286	292	319	314	315	264	292	279	253	202	182	172	168	181	172	186	126	184	172	150	169	223	1
11	✓	✓	✓	180	210	225	264	274	261	269	276	263	259	261	248	201	180	160	150	136	126	119	140	146	167	173	191	203	0
12	✓	✓		192	178	171	108	118	132	112	127	143	153	159	155	146	141	133	121	114	112	111	118	108	97	94	102	131	0
13	✓	✓	✓	[81	102	135	126	120	84	102]	127	136	139	143	146	140	141	132	125	132	125	114	120	127	136	129	121	124	0
14	✓	✓	✓	116	102	81	87	98	106	141	218	260	264	244	225	202	201	199	194	182	162	151	121	102	106	100	104	157	0
15	✓			103	103	94	109	119	131	166	154	146	146	141	142	146	139	(137)	138	138	120	168	140	138	126	121	130	133	1
16	✓	✓	✓	126	116	115	116	126	120	154	165	157	[145	112	126]	154	153	149	[113	123]	145	141	140	139	139	141	138	136	0
17	✓	✓	✓	144	136	123	143	142	156	169	191	196	177	167	154	137	118	102	97	100	92	92	99	114	133	132	111	134	0
18	✓	✓	✓	86	86	96	103	118	142	177	259	291	267	274	240	221	206	196	189	179	172	156	148	147	112	88	94	169	0
19	✓	✓	✓	102	118	129	156	195	225	218	316	319	321	300	254	222	198	188	[88	65	99]	129	128	123	125	115	101	176	0
20	✓	✓		96	103	105	72	108	134	174	182	170	155	160	151	154	155	147	146	146	145	134	126	137	147	167	218	143	1
21	✓	✓	✓	231	207	177	157	166	167	179	167	158	162	155	155	152	146	146	141	135	136	131	120	120	105	115	150	153	0
22	✓	✓	✓	150	151	154	173	181	188	190	180	171	161	163	160	154	(155)	148	151	146	141	127	125	122	123	125	141	153	0
23	✓	✓	✓	154	159	145	142	137	123	139	194	233	233	209	187	158	160	157	141	134	139	159	161	155	144	113	105	158	0
24	✓	✓	✓	102	102	95	98	115	129	128	151	192	215	220	212	202	198	186	171	136	120	117	116	120	123	111	[135]	146	0
25				—	—	—	—	—	—	—	141	—	156	156	112	154	156	152	147	141	141	139	137	140	124	120	115		0
26	✓	✓	✓	111	94	104	130	149	163	173	171	182	187	180	177	166	143	147	149	149	145	139	133	130	155	168	167	150	0
27	✓	✓	✓	167	178	186	202	213	226	238	247	253	259	252	240	218	195	185	174	167	157	167	148	149	177	216	228	202	0
28				240	247	257	274	291	312	265	218	—	—	180	177	169	[120]	146	148	148	135	120	153	111	—	115	109		1
29				112	109	112	137	156	172	198	172	161	152	146	146	123	151	145	138	146	151	126	107	112	118	[99	58]		1
30				[45	44	35	42	82	82	89	88]	136	—	—	—	—	—	—	—	127	122	114	100	87	93	99	140		0
31	✓	✓		[134	67	110	120	214]	258	273	245	182	172	179	167	158	147	147	152	152	151	144	134	138	138	134	135	160	0
MEANS * 23 DAYS				140	138	145	151	163	172	186	204	202	199	193	183	172	163	156	145	142	139	139	130	133	135	135	142	159	
MEANS † 20 DAYS				138	136	144	148	161	169	183	204	204	200	194	184	173	164	157	145	140	138	136	130	132	135	135	143	158	
MEANS ‡ 17 DAYS				137	139	146	156	163	168	182	207	211	207	199	189	177	167	159	146	140	138	137	131	132	136	136	141	160	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 285

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			149	157	151	149	136	132	124	151	114	105	113	122	89	110	131	125	128	133	130	135	148	114	103	98	127	0
2	✓	✓	✓	96	90	94	92	83	96	75	77	94	78	91	89	98	107	92	⌈118	138	98	88	90⌋	103	119	124	127	98	0
3				135	121	139	124	117	98	94	90	80	76	82	78	76	90	90	91	94	80	81	90	107	≷N 51	Z	Z ≷		1
4			≷	Z	Z	125	Z	Z	Z	Z	Z	Z	51	N 30	−34	−74	Z−	N 52	97	65	N 24	Z	Z	Z	Z ≷	83	108		2
5	✓			99	127	120	137	126	80	99	96	91	99	101	99	97	109	110	105	114	110	107	113	120	101	97	97	106	0
6	✓	✓	✓	98	96	90	89	96	106	77	83	96	105	95	91	⌈ 93	98	128	135	127⌋	106	128	113	91	130	120	109	104	0
7	✓	✓	✓	117	87	90	80	65	67	67	80	89	93	90	91	103	90	96	114	108	102	103	110	112	116	130	128	97	0
8	✓			140	148	⌈200	200	376	277	91⌋	57	55	63	68	77	80	86	92	92	108	108	116	119	113	129	114	125	126	0
9	✓			112	120	124	101	78	82	90	98	94	92	93	74	99	102	108	107	105	102	96	113	114	110	117	132	103	0
10	✓	✓		143	155	136	139	119	135	136	117	107	≷N 93≷	110	101	103	93	100	103	114	105	122	114	126	119	102	101	116	1
11	✓	✓	✓	121	111	121	122	105	84	77	78	90	83	92	92	90	83	88	101	100	112	118	112	130	118	109	109	102	0
12	✓	✓	✓	109	110	112	108	101	90	92	93	80	87	106	111	114	107	106	108	108	96	96	99	103	102	100	102	102	0
13				99	108	103	99	96	90	88	90	87	87	83	77	84	84	87	83	86	86	77	64≷	Z+	Z	Z+	Z ≷		1
14			≷	Z	Z	Z	Z	Z−	N 10	27	N 1	Z	Z ≷	88	75	119	108	N 31≷	70	50	78	78	82	82	[50	81⌋	96		2
15				90	80	87	143	113	—	—	—	112	93	75	80	76	88	89	80	80	84	97	102	⌈135	178	163	139⌋		0
16	✓	✓		134	151	152	140	106	93	77	96	86	80	74	74	77	89	78	82	94	83	86	91	96	108	122	127	100	0
17				117	—	—	—	—	—	—	96	77	86	107	114	95	103	98	105	105	102	92	95	100	112	119	131		0
18	✓	✓	✓	142	139	147	130	117	96	89	83	86	78	80	78	80	74	86	87	93	88	89	99	117	132	132	145	104	0
19	✓	✓		157	167	167	150	136	120	117	105	92	90	97	87	74	81	82	90	⌈105	114	120	139	114⌋	114	132	133	116	0
20	✓	✓		⌈135	145	157	157	163	152⌋	114	86	77	84	83	72	81	80	96	97	94	91	93	108	122	131	131	130	112	0
21				107	—	—	—	—	—	110	83	64	65	68	69	76	94	115	111	108	109	91	99	113	133	94	90		0
22				84	84	—	—	—	—	94	108	87	70	68	78	84	88	102	102	111	108	116	132	140	148	130	114		0
23	✓	✓	✓	108	112	105	86	63	61	69	77	76	74	73	79	84	81	91	92	93	90	109	111	113	117	105	91	90	0
24	✓	✓	✓	68	81	87	86	83	54	52	65	71	77	82	83	92	97	105	103	105	111	118	127	122	121	120	118	93	0
25				109	—	—	—	—	—	90	69	65	61	61	64	76	75	70	77	87	93	99	109	118	124	137	96		0
26				—	—	—	—	—	115	92	82	78	86	80	100	95	95	99	114	108	109	115	120	136	132	126	117		0
27	✓	✓	✓	103	89	92	64	68	74	68	69	53	53	56	54	56	53	58	64	60	63	72	72	87	87	95	102	71	0
28	✓	✓	✓	108	112	111	102	87	63	51	48	51	55	56	63	71	77	78	77	74	89	98	113	111	110	107	106	84	0
29	✓	✓	✓	101	99	91	109	114	113	102	102	103	97	86	82	83	92	101	100	111	82	84	92	109	111	114	117	100	0
30	✓			105	113	110	105	99	93	83	82	76	78	64	73	81	83	80	90	96	110	103	91	88	93	105	99	92	0
31																													
MEANS * 20 DAYS				117	120	123	117	116	103	88	87	84	83	86	85	87	90	95	100	104	100	104	108	112	114	114	115	102	
MEANS † 15 DAYS				116	116	117	110	100	94	84	84	83	82	85	83	87	87	92	98	102	95	102	106	110	116	116	116	99	
MEANS ‡ 11 DAYS				106	102	104	97	89	82	74	78	81	80	82	83	88	87	94	100	102	94	100	103	109	115	114	114	95	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VAL

TABLE 286

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	737.1	16.7	80	21.8	12.3	0.05	6.1	NW	4	WNW	8	WNW	14	W	1	CiSt; ACu; Cu; Nb	10- 7	Cu	6- 4	Light showers in am; clear in evening
2	743.9	19.0	55	25.9	7.0	T	9.2	NNW	1	NNW	2	WNW	4	S	5	CiSt; Cu	4- 8	CiSt; Cu	4- 6	
3	741.2	22.0	47	29.7	11.3		7.3	SSW	2	SSE	4	S	9	S	7	CiSt; CiCu	7- 8	CiSt; CiCu	7- 8	
4	740.9	16.4	89	17.8	15.0	0.06	0.0	N	4	SSW	4	NE	..	SW	..	ASt; StCu; CuNb	7-10	ASt; StCu; CuNb	7-10	Rain throughout
5	738.0	16.5	62	21.9	8.2	0.19	8.9	N	..	WNW	..	W	10	WNW	2	ACu; ASt; Cu	7- 8	ACu; ASt; Cu	7- 8	
6	736.6	18.7	62	23.1	8.5		6.9	N	1	W	8	W	12	SSW	2	Cu; StCu; CuNb	3- 6	Cu; StCu; CuNb	7- 8	Dew early
7	739.6	19.5	61	26.1	9.5		8.8	..	0	E	1	SSW	2	S	4	CiSt; ACu; FrCu	7- 8	ACu; StCu; Cu	7- 8	Dew early
8	736.9	25.0	38	33.2	12.5		11.0	SSE	1	NE	10	WSW	11	W	2	CiSt; CiCu; ACu	7- 8	CiSt; CiCu; ACu	7- 8	Dew early
9	736.6	19.1	59	23.5	12.0		7.7	..	0	WNW	8	WNW	16	WNW	4	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	7- 8	
10	735.1	18.3	68	22.9	13.3	0.02	7.6	W	5	WSW	9	SW	16	SSW	7	Cu; CuNb	9-10	ACu; Cu; CuNb	10	Occasional showers
11	739.9	18.1	64	21.5	13.5		2.3	S	6	ESE	12	SSE	7	ESE	3	Cu	7- 8	Cu	6- 4	Practically clear in evening
12	741.0	16.6	40	23.1	10.5		12.0	ESE	7	E	18	E	9	ESE	6	ACu	1- 3	ACu	1- 3	
13	737.4	21.7	44	30.0	13.0		10.7	E	9	NE	12	NE	10	NE	10	Cu	1- 3	Cu	4- 8	Thunder and lightning in evening
14	731.7	13.3	89	20.3	13.5	0.26	2.6	WNW	3	WNW	10	WSW	9	WSW	1	Nb	9-10	Cu; CuNb	7- 8	Steady rain in am; showers in pm
15	738.1	19.8	66	24.3	13.0	0.07	4.2	..	0	..	0	S	4	SSW	4	Cu	8- 4	Cu	3- 1	
16	741.4	19.6	64	26.6	12.4	T	8.6	S	2	S	4	SSW	4	SSW	4	Cu	8- 3		3- 1	
17	740.9	21.5	53	31.2	10.7		11.1	SSE	1	SE	3	WSW	3	S	3		0		0	Dew early
18	740.7	20.7	61	26.6	11.6		9.8	S	3	SSE	5	S	10	S	6	ACu; FrCu; CiSt	5- 8	CiSt; ACu; FrCu	7- 8	
19	742.8	18.3	51	26.2	10.5		12.6	SSE	5	ESE	10	S	2	S	6	CiCu	1- 3	CiCu	1- 3	Dew early
20	741.1	23.3	35	30.6	9.5		12.6	SSE	2	E	4	ESE	1	S	3		0		0	Dew early; thin sky-haze
21	735.8	26.3	33	34.2	10.1		12.3	S	1	SE	2	SSW	8	SSW	3	CiSt	0- 1	CiSt	0- 1	
22	738.6	21.1	63	24.1	10.0		6.1	..	0	SW	5	SW	8	SSW	1	CiSt; ACu; StCu	7-10	CiSt; ACu; StCu	7- 8	Dew early
23	742.7	18.2	46	23.7	7.0		11.9	SSW	1	SSE	4	SSW	7	SSW	4	CiSt; CiCu; ACu	9- 7	CiSt; CiCu; ACu	6- 4	Dew early
24	744.2	19.5	52	26.0	9.4		8.8	SW	1	..	0	S	5	SSE	4	Cu	10- 7	Cu	6- 1	
25	741.3	24.6	41	33.5	11.3		12.7	SSE	3	ENE	3	NE	1	S	7	CiSt	1- 3	CiSt	1- 3	Dew early
26	738.7	21.0	58	24.6	14.2		8.5	S	2	SSW	8	SSW	13	S	8	CiSt; Cu; CuNb	7- 8	Cu; CuNb; Nb	9-10	Few light showers; sky clearing after 21h
27	744.7	18.5	31	25.1	9.3		12.6	SSE	3	ESE	12	ESE	7	SSE	8	CiSt; ACu	1- 3	CiSt; ACu	1- 3	
28	744.2	21.6	30	29.4	9.3		12.8	SSE	4	ENE	6	ENE	2	S	7		0		0	
29	741.0	23.5	38	31.9	10.8		9.2	S	3	SSE	8	S	10	SSE	9	Ci; CiSt; ACu	4- 8	CiSt; ACu; StCu	4- 6	
30	742.1	18.1	46	24.9	11.4		11.7	SSE	10	SE	4	SSE	7	SSE	9	Ci; ACu	2- 6	Ci; ACu	4- 6	
31																				
SUM						0.65														
MEAN	739.8	19.9	54	26.1	11.0		9.2	2.9		6.3		7.6		4.8						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.85 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				198	190	201	200	195	196	161	152	—	—	—	—	—	—	—	—	—	138	139	145	152	168	170	170		0
2	✓	✓	✓	167	185	182	184	163	184	257	236	187	175	168	166	161	153	146	⌈114	56	104	129	138⌋	143	145	143	149	160	0
3	✓			143	149	142	154	164	173	180	198	201	205	182	178	178	173	167	154	154	154	149	139	139	138≷	111	91≷	159	1
4	✓		≷	84	125	129	116	111	100	76	139	147	129	124	117	111	89	127≷	142	139	136≷	93	107	109	159≷	140	147	121	2
5				—	—	—	—	—	—	—	—	—	154	154	156	146	146	(143)	142	147	140	149	139	153	166	174	185		0
6	✓	✓	✓	181	180	⌈196	167	140	122⌋	194	185	159	152	153	147	⌈139	111	109	91	113⌋	133	116	127	153	116	136	136	144	0
7	✓	✓	✓	149	150	149	168	194	208	237	209	188	180	163	160	154	150	142	139	139	139	140	140	143	133	132	138	160	0
8				139	136	⌈116	110	59	81	210⌋	293	259	239	208	—	166	168	(160)	160	153	140	132	127	131	132	139	—		0
9				—	—	—	—	—	—	—	—	—	167	154	145	143	131	120	124	132	140	150	160	173	178	174	166		0
10	✓	✓		164	173	175	167	150	150	147	157	167	166	166	167	163	159	164	161	161	157	154	152	153	160	173	171	162	1
11	✓	✓	✓	166	178	188	192	192	201	210	206	188	166	140	154	154	143	133	135	127	132	140	147	145	167	185	189	166	0
12	✓	✓	✓	195	205	203	201	195	205	203	196	178	174	166	154	157	(150	140)	139	147	159	173	181	188	198	219	237	182	0
13	✓			257	250	244	235	237	229	230	209	182	173	177	180	174	170	163	161	156	159	170	187≷	187	177	180	154≷	193	1
14			≷	181	209	198	71	103≷	188	166	≷145	100	116≷	171	149	139	143	133	145	154	156	164	171	171	164	153	154		2
15	✓			161	164	⌈157	84	106⌋	157	167	173	178	173	171	168	171	174	175	171	163	160	160	168	⌈167	111	132	159⌋	157	0
16	✓	✓		170	168	167	164	157	153	138	125	138	152	163	180	166	160	157	159	160	160	166	167	168	164	163	153	159	0
17	✓			154	⌈161	160	168	159	167	170	145⌋	175	170	124	113	125	153	160	161	153	152	161	166	167	164	154	140	155	0
18	✓	✓	✓	135	135	133	138	143	146	125	120	135	146	153	153	154	157	153	154	152	147	156	152	146	149	142	135	144	0
19	✓	✓		135	122	131	143	149	143	152	150	152	160	166	161	152	125	124	132	⌈132	109	99	92	125⌋	131	127	117	135	0
20	✓	✓		⌈113	111	110	109	110	118⌋	152	180	202	205	171	160	157	146	(118	110)	102	96	111	109	110	111	128	125	132	0
21	✓			131	129	129	124	127	131	125	139	161	175	171	161	150	132	110	118	118	132	146	152	⌈157	140	163	167⌋	141	0
22				⌈167⌋	—	—	—	—	—	—	—	—	145	140	136	129	121	118	116	117	118	117	113	111	122	135	142		0
23	✓	✓	✓	140	139	143	153	167	171	168	152	136	128	125	125	122	125	124	121	122	120	120	117	124	125	136	164	136	0
24	✓	✓	✓	189	174	166	166	175	209	209	180	160	142	135	127	125	127	122	122	121	127	128	128	138	143	132	135	149	0
25				131	124	120	109	116	122	140	181	205	209	189	181	175	173	173	174	152	152	150	149	142	136	128	118		0
26	✓			116	117	125	127	131	136	138	143	156	153	149	149	150	147	140	139	143	140	132	127	124	117	122	124	135	0
27	✓	✓	✓	128	133	138	131	127	138	149	150	138	138	127	114	106	102	(99	95)	100	106	109	120	116	124	120	114	122	0
28	✓	✓	✓	102	100	102	111	132	180	219	237	236	223	210	192	178	170	160	146	125	121	120	120	122	124	136	139	154	0
29	✓	✓	✓	135	139	143	139	128	121	107	92	82	95	107	117	113	110	110	117	109	127	132	133	125	125	132	138	120	0
30				—	—	—	—	—	—	—	—	116	125	132	136	139	138	128	⌈102	78	82	91	109	103	109	109	100⌋		0
31																													
MEANS * 22 DAYS				151	154	155	152	153	161	171	169	166	163	155	152	148	142	138	136	131	135	137	140	143	142	146	146	149	
MEANS † 15 DAYS				151	153	155	156	155	163	178	172	163	160	154	152	147	139	133	129	124	129	133	135	140	141	147	149	148	
MEANS ‡ 11 DAYS				153	156	158	159	160	171	189	178	162	156	150	146	142	136	131	125	119	129	133	137	140	141	147	152	149	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 288

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				139	141	144	146	153	151	131	123	127	130	131	131	127	120	116	116	118	117	116	105	102	109	124	132		0
2	✓	✓	✓	129	153	151	144	140	164	238	232	167	149	150	156	150	146	140	⌈112	47	94	112	116⌋	123	119	117	112	140	0
3	✓			107	105	103	111	127	137	158	182	196	195	184	180	169	166	162	149	145	143	135	122	119	124	≷132	131≶	145	1
4	✓		≷	126	101	95	94	126	94	140	42	78	126	123	140	146	166≶	146	119	127	130	≷100	117	76	101≶	112	94	113	2
5				108	108	107	94	109	163	173	175	151	150	155	156	157	136	138	139	138	127	125	110	112	129	134	139		0
6	✓	✓	✓	151	⌈139	141	137	114	98⌋	172	185	156	155	157	151	⌈140	120	108	87	101⌋	115	91	90	(112)	85	92	87	124	0
7	✓	✓	✓	100	99	96	126	156	162	186	172	160	146	138	138	127	137	127	117	119	117	110	108	110	108	103	102	128	0
8				99	90	⌈ 72	66	29	46	180⌋	275	255	233	—	—	—	—	152	145	135	121	112	105	102	96	102	99		0
9				104	101	105	—	—	—	—	—	—	166	148	143	145	144	139	130	127	129	136	138	144	143	145	139		0
10	✓	✓		141	139	141	132	120	111	126	132	146	148	155	155	154	147	150	146	141	137	127	119	117	125	138	146	137	1
11	✓	✓	✓	138	151	155	151	162	180	193	201	194	172	146	162	162	146	128	126	123	121	115	110	113	109	123	142	147	0
12	✓	✓	✓	168	173	175	179	177	186	197	203	184	187	182	168	167	(164	154	145)	146	155	167	164	174	187	198	206	175	0
13	✓			235	222	219	216	214	208	211	196	172	162	169	175	165	162	154	147	143	146	156	172	≷145	170	112	112≶	174	1
14			≷	161	111≶	—	—	—	—	—	—	—	≷134≶	146	142	127	137	130	131	137	139	132	128	129	144	127	114		2
15	✓			106	112	111	⌈ 38	77	108⌋	134	137	128	146	154	151	156	155	156	154	149	139	134	138	⌈111	78	91	118⌋	124	0
16	✓	✓		119	116	119	114	114	111	122	108	120	138	152	147	149	141	141	141	136	138	134	127	127	124	123	112	128	0
17	✓			108	⌈ 93	88	113	117	116	134	125⌋	161	150	98	90	114	140	147	146	132	127	129	125	122	126	123	101	122	0
18	✓	✓	✓	91	87	91	78	91	113	108	103	115	127	136	143	142	143	139	138	133	124	128	121	112	110	106	101	116	0
19	✓	✓		93	84	85	93	103	106	120	141	153	163	164	159	147	124	119	121	⌈118	95	85	75	108⌋	112	101	94	115	0
20	✓	✓		⌈ 89	77	73	76	78	89⌋	125	171	200	199	174	162	156	142	112	99	88	85	104	99	94	94	108	96	116	0
21	✓			99	96	94	88	98	110	108	124	156	170	172	168	159	131	101	105	103	114	123	113	⌈112	95	106	110⌋	119	0
22				⌈131	124⌋	129	120	104	113	115	115	132	135	138	143	130	120	114	110	107	106	95	78	61	68	88	106		0
23	✓	✓	✓	109	108	112	129	148	152	159	154	138	131	132	134	123	127	127	126	120	112	102	86	99	79	93	125	122	0
24	✓	✓	✓	172	158	140	140	149	187	181	165	151	147	145	137	132	135	127	126	120	120	112	103	110	115	110	101	137	0
25				97	—	—	—	—	—	—	—	—	215	194	186	176	174	172	163	143	138	134	121	119	107	96	93		0
26	✓			85	75	93	93	99	103	111	120	139	136	139	138	138	139	122	121	118	110	103	100	97	92	95	95	111	0
27	✓	✓	✓	90	88	107	100	97	116	145	160	153	155	150	136	119	109	104	96	99	101	101	111	106	112	103	98	115	0
28	✓	✓	✓	87	82	83	90	115	164	220	250	247	229	219	197	184	172	164	144	116	105	108	107	109	110	120	116	147	0
29	✓	✓	✓	105	108	120	114	108	103	97	82	75	90	104	110	109	103	110	112	98	121	123	121	113	111	110	101	106	0
30				105	102	110	106	105	112	119	109	114	129	142	145	146	146	136	⌈104	73	75	81	103	100	99	85	91⌋		0
31																													
MEANS * 22 DAYS				120	117	118	116	124	133	154	154	154	156	152	150	146	142	134	126	119	120	118	116	114	113	114	114	130	
MEANS † 15 DAYS				119	117	119	120	125	136	159	164	157	156	154	150	144	137	130	122	114	116	115	110	115	113	116	116	130	
MEANS ‡ 11 DAYS				122	122	125	126	132	148	172	173	158	153	151	148	141	137	130	121	111	117	115	112	116	113	116	117	132	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 289

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[82	82	74	64]	69	62	63	68	69	63	73	84	92	95	88	86	83	81	90	97	102	⌈118	145	167]	87	0
2	✓	✓		⌈185	159]	92	65	72	65	62	63	74	83	86	87	96	100	105	105	102	109	107	107	118	122	⌈167	165]	104	0
3	✓			⌈161	131]	89	70	54	50	61	70	72	87	89	93	86	96	84	81	81	91	82	68	77	75	71	64	83	0
4	✓	✓	✓	60	62	54	51	45	41	46	55	68	77	80	77	77	78	86	86	65	⌈82	65	75	38	59	58	77]	65	0
5	✓	✓		112	99	N 78	N 50	⌈208	125	142	120]	103	100	91	89	78	97	92	95	88	96	94	109	108	129	132	102	106	1
6	✓			120	101	106	125	131	134	135	122	110	116	103	106	96	96	107	120	112	120	118	124	129	100	108	84	113	0
7				—	—	—	—	—	—	—	—	—	76	97	84	103	106	103	109	102	103	113	127	126	110	96	80		0
8	✓			⌈64	95	121	121	148	113]	97	95	81	77	95	82	91	90	107	96	95	114	120	125	129	140	117	98	105	0
9	✓	✓	✓	79	86	86	70	72	80	68	70	77	71	68	73	76	83	77	77	83	94	110	106	106	135	110	93	85	0
10	✓	✓	✓	97	91	96	88	93	93	115	94	76	77	87	91	101	110	91	99	100	110	115	⌈199	225	176	171	170]	115	0
11	✓			⌈183	178	182	186	202	165	143	129]	100	92	82	94	101	91	103	93	⌈126	103	113	149	145	146	145	131]	133	0
12	✓	✓		⌈114	149	158	148	229	132	110]	118	69	60	64	80	65	71	65	68	73	90	76	83	90	103	110	131	102	0
13				127	—	—	—	—	105	78	54	49	40	49	51	55	59	65	70	73	82	80	99	113	113	⌈127	126]		0
14	✓	✓		⌈91	131	153	161]	80	45	41	45	48	58	62	63	75	74	78	⌈102	92]	77	77	84	90	87	89	94	83	0
15	✓	✓	✓	93	106	87	90	84	82	89	74	72	56	56	60	68	82	95	⌈100	151	282	211]	120	127	130	121	103	106	0
16				Z	Z	153	N 91	Z	97	81	76	67	60	70	90	75	71	Z	Z	143	Z+	103	109	97	83	N128	N 88		2
17				Z	Z	Z	72	61	51	N 41	57	56	45	51	46	56	60	N 0	N 48	98	⌈110	153	174	166	155	154	159]		1
18				⌈175	121	107	—	—	111	131	112]	114	110	107	105	102	107	103	100	97	102	118	⌈133	152	172	191	238]		0
19	✓			⌈249	221	131]	109	105	97	92	94	83	79	83	90	88	110	88	97	100	106	124	124	⌈157	154	137	149]	119	0
20	✓			⌈156	158	187	196	201	205	172	156]	128	121	99	111	126	135	145	165	145	146	131	135	138	140	132	131	148	0
21	✓	✓	✓	133	131	119	110	127	126	115	132	111	115	116	112	107	118	120	114	114	113	124	132	134	131	137	139	122	0
22	✓	✓		⌈137	153	169	167	163	144	114]	94	96	97	98	98	106	103	106	107	92	100	108	115	131	⌈219	248	218]	133	0
23	✓			⌈183	166	177	180	167	157	121]	93	78	72	72	88	92	97	109	116	111	106	114	121	125	139	131	135	123	0
24	✓			⌈148	165	149	129]	119	110	120	N 78	93	78	94	74	97	113	122	80	72	97	134	144	144	121	100	100	112	1
25	✓			94	113	133	103	93	98	96	96	81	80	88	N 81	97	100	80	111	112	106	98	108	111	113	121	121	101	1
26	✓			120	112	112	121	111	128	113	107	97	91	107	110	⌈124	119	133	125	118	137	137	150	137	143	164	169]	124	0
27	✓	✓		⌈169	144]	103	96	108	88	86	86	89	108	99	109	108	95	95	99	101	94	95	99	94	111	118	117	105	0
28	✓	✓	✓	121	128	114	90	71	55	54	56	58	67	71	72	74	75	N 82	70	73	72	74	68	71	⌈193	210	239]	94	1
29	✓	✓		⌈252	216	187	150	96]	72	60	64	68	73	73	80	78	73	73	74	70	75	80	⌈86	128	143	204	238]	113	0
30	✓	✓		⌈243	237	161	97	76]	60	53	56	68	77	88	96	94	87	81	88	78	⌈98	186	312	290	153]	93	94	124	0
31	✓	✓		107	108	111	109	121	99	100	108	88	81	78	79	83	88	88	⌈135	106]	94	97	103	114	⌈125	139	150]	105	0
MEANS * 26 DAYS				137	135	124	113	117	101	95	90	83	83	85	88	91	95	96	100	98	107	111	121	125	131	134	134	108	
MEANS † 16 DAYS				130	130	115	100	107	86	82	82	77	79	81	84	86	89	89	94	92	104	107	118	123	133	141	144	103	
MEANS ‡ 6 DAYS				97	101	93	84	88	85	86	85	82	84	84	88	91	93	91	96	92	95	98	104	98	110	105	103	93	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1929

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.5	18.0	40	26.9	9.1		12.8	SSE	3	E	10	E	8	SE	4	CiSt	1- 6	CiSt	4- 6	
2	745.5	22.6	30	30.6	11.1		12.9	ESE	4	ENE	12	ENE	8	SE	4	CiSt	1- 3	CiSt	1- 3	
3	744.8	27.8	19	34.0	13.8		12.8	ESE	4	NE	8	ENE	5	E	3	Ci; CiSt	3- 6	Ci; CiSt	4- 6	
4	742.1	30.4	13	37.7	14.5		8.6	ESE	2	N	9	N	4	..	0	Ci; CiSt; CiCu	7- 9	Ci; CiSt; CiCu	7- 8	
5	740.6	31.0	25	37.7	13.3		12.8	..	0	..	0	SSW	8	SSE	1	Ci	1- 3	Ci; CiSt; ACu	4- 6	
6	739.6	22.4	59	27.2	12.9		11.5	SW	2	SW	4	WSW	14	WSW	4	CiSt	1- 3	CiCu; ASt	4- 8	Dew early; overcast in evening and rain at night
7	739.4	16.5	63	22.6	12.8	0.01	6.0	SSW	3	SSW	4	S	11	SW	2	CiSt; ACu; StCu	10- 7	CiSt; ACu; StCu	6- 4	
8	738.9	18.4	68	24.4	11.0		5.6	..	0	SW	4	SSW	8	SSW	4	CiSt; ACu; Cu	10- 7	CiSt; ACu; StCu	6- 4	Dew early
9	739.3	19.2	52	24.7	10.5		10.8	S	3	S	7	S	9	S	6	Cu	6- 8	Cu	4- 6	
10	740.6	20.5	44	32.1	9.4		12.8	S	2	ESE	6	S	2	S	8	CiCu	1- 3	CiCu	1- 3	Dew early
11	740.7	21.9	53	32.7	12.5		12.9	SSE	4	ESE	4	S	1	SSE	3	ACu; ASt	1- 3	ACu; ASt	4- 6	Dew early; fire in NW
12	740.2	29.7	31	37.5	11.1		13.0	SSE	1	ENE	2	WSW	3	SSE	6	CiSt	1- 3	CiSt	1- 3	Dew early; fire in NW
13	741.2	28.7	31	39.8	12.0		12.4	S	1	E	6	SE	2	S	2		0	ACu	1- 6	
14	739.1	36.8	15	42.4	17.7		12.9	S	2	NNE	8	SW	2	SSE	5	Ci; CiSt	10- 4	Ci; CiSt; StCu	4- 6	Smoky in W
15	734.6	35.0	15	43.3	21.8		9.8	SE	4	SE	4	SW	3	SSE	4	CiSt; CiCu; ASt; ACu	4- 6	CiSt; CiCu; ASt; ACu	7-10	Overcast in evening
16	735.6	38.4	12	42.6	23.8		5.4	ESE	3	NE	7	WSW	3	SE	3	CiCu; CiSt; ACu	4- 9	CiSt; ASt; CuNb; Nb	7-10	
17	733.2	39.0	9	41.4	25.3		9.4	SW	2	N	5	WSW	13	SW	1	CiSt; ACu; ASt	4- 6	CiSt; ACu; ASt	7- 8	
18	737.3	23.0	58	28.7	18.2		8.4	SW	2	SSW	5	SSW	5	S	6	CiSt; ACu; ASt	7-10	CiSt; ACu; ASt	7-10	
19	736.6	21.0	49	33.1	15.7		11.5	SE	5	ESE	11	SE	3	S	5	Ci; CiSt	10- 7	Ci; CiSt	6- 1	
20	736.1	20.4	72	25.9	16.1		7.2	SSW	5	SW	9	SW	12	SSW	10	Ci; CiSt; ASt	10	Ci; CiSt; ASt	9- 7	Dew early; partly cloudy in evening
21	740.4	20.9	44	24.6	11.6		11.9	SSW	2	S	8	SSW	10	S	5	Cu; StCu	6- 4	Cu; StCu	3- 1	Clear in evening
22	741.5	20.8	38	27.8	10.0		12.8	S	3	ESE	17	ESE	6	S	10		0		0	
23	738.9	22.2	43	27.3	11.1		12.5	S	3	SSE	1	SSW	9	SSW	9	Ci; CiSt	1- 3	Ci; CiSt	1- 3	
24	736.5	15.3	92	20.3	12.4	T	2.5	SW	2	SW	11	SW	14	SSW	2	Cu; CuNb	7-10	Cu; CuNb	7-10	Light rain in am and pm
25	737.0	17.0	59	22.4	8.6	T	7.2	SW	3	SSW	8	SW	12	S	6	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	6- 4	Light rain in am
26	739.5	17.7	44	24.4	9.6	0.02	13.1	S	5	SSE	13	SSE	..	SSE	6	Cu; StCu	1- 3	Cu; StCu	1- 3	
27	742.1	19.0	41	28.7	10.6		13.3	ESE	4	ENE	11	E	6	SE	2		0		0	
28	742.3	26.3	21	33.3	12.4		13.2	SE	2	NE	8	NNE	4	SE	2		0		0	
29	740.8	30.3	20	35.3	14.8		13.0	SSE	2	NE	6	E	3	SSE	7		0		0	Smoky in pm
30	739.8	31.1	18	37.9	16.8		12.6	SE	3	NNE	8	S	2	S	6		0		0	Much smoke in late pm
31	740.1	30.6	22	38.3	15.7		12.7	S	3	ESE	2	SSW	12	S	6		0		0	Smoky
SUM						0.03														
MEAN	739.6	24.9	39	31.8	13.8		10.8	2.7		7.0		6.7		4.6						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 291

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[113	116	121	159]	207	212	200	196	187	186	174	163	156	153	154	153	151	146	148	156	169	[159	134	115]	160	0
2	✓	✓		[105	131	200]	271	281	296	319	302	259	225	209	209	200	196	194	191	191	186	181	187	181	200	[158	138]	209	0
3				[144	176]	256	322	358	385	368	338	289	227	197	186	181	177	174	174	168	173	182	204	204	228	250	261		0
4	✓	✓	✓	284	302	315	328	335	325	315	300	(222	187)	184	173	173	169	168	164	156	[148	141	154	181	179	191	237]	222	0
5	✓	✓		212	≷222	218	103≷	[81	96	113	128]	146	144	159	166	166	166	154	151	163	166	171	182	176	169	171	[199]	159	1
6				[181	217	220]	138	134	131	136	154	159	159	161	156	151	138	138	124	129	133	128	136	144	141	146	148		0
7	✓			159	148	148	149	138	146	151	151	149	151	148	143	148	148	149	148	148	151	149	146	149	168	191	215	154	0
8	✓	✓		[248	192	192	209	159	163]	168	168	179	186	182	186	179	173	163	151	144	143	149	146	144	146	158	166		0
9	✓	✓		168	181	169	166	163	161	151	148	149	151	151	149	154	144	144	143	139	110	100	128	126	103	123	131	144	0
10				128	134	141	139	129	120	110	121	148	153	146	144	153	(166)	173	171	164	131	134	[80	68	106	121	129]	134	0
11				[124	118	115	108]	—	—	—	—	—	192	200	200	200	196	199	184	[105	115	123	100	126	121	118	121]		0
12	✓	✓		[134	120	106	113	105	134	153]	189	223	232	218	200	194	186	186	186	[182	121]	166	163	156	159	153	134	163	0
13	✓			129	153	149	151	159	163	215	286	342	362	319	292	266	255	235	285	215	199	186	169	161	153	[143	118]	210	0
14	✓	✓		[141	108	101	124]	220	332	425	381	305	237	186	184	181	181	179	[113	115]	186	182	168	171	176	169	164	197	0
15	✓	✓		174	169	177	194	210	202	215	214	228	263	263	230	182	184	173	[168	86	50	83]	136	136	133	120	126	172	0
16				≷ 51	53	133	141	111	153≷	164	173	215	≷205≷	—	—	—	—	—	—	—	—	≷168≷	176	182	182	≷191	202≷		2
17				≷215	22	149≷	232	241	248	245	246	237	179	182	197	186	153	149	149	141	[134	113	101	108	113]	—	—		1
18				—	—	—	—	—	—	—	—	—	—	166	173	192	192	182	179	173	169	169	[163	146	136	115	98]		0
19				[96	101	173]	197	184	187	184	182	192	189	184	181	179	177	171	174	174	156	149	159	—	—	—	—		0
20				—	—	—	—	—	—	—	—	98	110	105	115	120	121	128	131	129	129	128	128	131	133	138	158		0
21	✓	✓	✓	163	153	153	163	153	151	166	143	158	151	141	138	133	131	143	139	136	131	123	118	115	118	120	120	140	0
22	✓	✓		[134	123	124	120	120	134	169]	168	166	166	156	148	141	143	136	129	121	113	91	106	111	[56	68	56]	125	0
23				—	—	—	—	—	—	—	—	191	196	184	163	153	144	129	124	136	136	133	133	129	138	144	134		0
24				[116	120	129	134]	149	133	133	129	131	126	129	128	133	(133)	123	129	126	128	121	128	126	—	—	—		1
25				—	—	—	—	—	—	136	133	126	146	163	149	124	108	108	120	126	118	110	118	124	139	138	148		1
26				149	149	151	156	158	154	153	151	153	161	159	148	[134	106	95	95	93	83	90	105	116	118	116	118]		0
27	✓	✓		[126	144]	184	199	207	210	217	205	191	179	166	159	154	146	139	131	118	120	124	133	144	143	134	141	159	0
28	✓	✓		148	164	177	215	261	282	296	296	241	214	184	171	158	156	154	156	158	151	158	159	169	[76	66	66]	178	1
29	✓	✓		[65	78	98	143	189]	220	273	281	218	192	171	169	164	161	153	153	158	164	168	[169	115	100	83	70]	156	0
30	✓	✓		[66	76	116	182	233]	263	289	307	271	212	181	153	153	144	148	149	148	[66	37	30	32	98]	148	138	152	0
31	✓	✓		124	118	121	123	116	138	128	113	123	131	136	136	121	(103)	106	[70	95]	128	131	141	134	[128	113	103]	120	0
MEANS * 18 DAYS				143	147	157	169	184	199	217	218	207	196	183	174	166	163	160	152	147	137	137	140	139	135	134	133	164	
MEANS † 16 DAYS				143	146	158	171	188	205	221	218	202	189	177	168	161	158	156	148	143	132	134	138	136	132	130	129	162	
MEANS ‡ 6 DAYS				178	164	189	198	200	195	196	188	183	181	175	158	158	156	158	144	138	138	134	141	147	144	149	160	166	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 292

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1929

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[92	84	87	134]	197	212	206	202	201	200	193	192	184	180	174	164	158	149	145	142	132	[126	105	79]	156	0
2	✓	✓		[68	78	159]	231	273	294	321	306	269	235	229	233	227	221	219	207	199	184	172	148	133	154	[118	102]	199	0
3				[99	116]	214	266	314	338	349	336	—	—	—	—	—	—	—	—	—	—	—	—	—	177	204	213		0
4	✓	✓	✓	234	250	260	280	294	287	278	269	(206	174)	172	166	168	151	146	138	131	[116	120	121	153	132	154	191]	191	0
5	✓	✓		161	≷ 151 ≷	180	90	≷ [57	66	72	95]	113	121	128	149	146	141	133	133	131	133	136	125	117	100	97	(112)	120	1
6				—	—	—	—	—	—	—	—	—	—	136	137	132	124	126	110	105	107	98	103	105	111	108	103		0
7	✓			112	114	90	98	112	94	114	125	132	128	138	138	143	144	142	140	136	130	122	110	99	111	134	175	124	0
8			✓	—	—	—	—	—	—	—	—	—	165	165	165	162	162	148	138	131	120	111	100	98	89	99	116			0
9	✓	✓	✓	127	138	134	132	137	132	132	132	138	148	150	150	149	143	140	139	133	101	86	108	110	81	84	94	126	0
10	✓	✓	✓	96	106	112	114	114	113	102	115	150	145	138	136	146	(148	150	151)	153	120	121	[66	56	89	100	95]	118	0
11				[88	75	71	74	66	73	92	102]	141	165	181	171	173	180	169	167	[94	100	106	74	92	91	90	91]		0
12	✓	✓		[94	84	73	66	46	82	125]	177	206	213	211	186	189	178	177	170	[165	104]	142	137	131	120	119	102	137	0
13	✓			94	97	102	104	99	120	175	275	318	330	311	293	273	253	223	207	197	178	158	130	116	112	[97	83]	181	0
14	✓	✓		[90	83	75	85]	180	280	344	331	278	221	170	163	157	159	149	[90	92]	152	151	138	131	126	121	120	162	0
15	✓	✓	✓	129	129	136	139	164	168	175	186	204	246	246	225	177	167	151	[140	70	38	58]	92	96	99	90	92	142	0
16				≷ 103	123	85	99	118	114 ≷	118	123	181	185	≷ 173	99	120	139	91	152	112	65	113 ≷	111	121	138	≷ 124	132 ≷		2
17				≷ 144	162	107 ≷	178	177	180	≷ 182 ≷	195	[207]	165	170	184	161	125	119	117	101	[94	75	62	51	56	72	69]		1
18				[64	71	68	67	73	80	81	95]	113	122	124	133	166	164	143	146	142	136	128	[117	103	92	74	55]		0
19				—	—	—	—	—	—	—	—	—	—	180	168	168	158	150	157	154	139	130	133	[120]	—	—	—		0
20				—	—	—	—	—	—	—	—	80	83	91	98	101	104	107	104	101	94	98	96	98	100	102	114		0
21	✓	✓	✓	115	114	112	112	93	108	140	125	135	140	140	142	138	136	134	136	131	122	114	104	101	99	92	92	120	0
22	✓	✓		[90	75	81	86	92	110	150]	183	182	180	168	162	156	150	140	125	119	114	92	101	105	[57	49	56]	118	0
23				[65	63	64	65	66	76	122]	158	188	201	195	170	158	148	125	112	129	121	115	111	110	102	94	108		0
24				[92	85	87	82]	107	108	113	120	128	125	131	136	139	140	(127)	—	—	138	113	116	—	—	—	—		1
25				—	—	—	—	—	—	—	136	138	139	154	—	—	—	119	122	121	115	112	105	—	—	—	—		1
26				—	—	—	—	—	—	—	—	—	163	166	150	[118	92	79	84	84	73	85	103	111	112	98	92]		0
27	✓	✓		[70	96]	154	193	184	182	233	229	221	204	201	193	187	172	158	144	130	130	133	132	121	127	124	128	160	0
28	✓	✓	✓	131	135	145	191	256	255	311	321	269	231	198	186	178	177	171	174	172	164	162	157	141	[68	54	48]	179	1
29	✓	✓		[46	55	73	108	154]	211	264	280	234	199	172	162	164	164	154	149	150	159	161	[143	93	81	60	43]	145	0
30	✓	✓		[44	49	72	136	191]	235	287	311	266	210	182	141	142	137	140	138	130	[58	29	25	26	75]	123	120	136	0
31	✓	✓		92	92	100	101	94	119	114	94	104	125	131	131	117	103	(93)	[64	79]	117	118	121	116	[106	90	73]	104	0
MEANS * 18 DAYS				105	107	119	133	152	170	197	209	201	192	182	175	169	162	155	145	138	126	123	117	110	104	101	100	146	
MEANS † 16 DAYS				105	107	122	137	158	178	203	210	198	187	177	170	164	158	152	141	134	123	121	116	110	102	99	97	145	
MEANS ‡ 6 DAYS				139	145	150	162	164	165	177	176	176	176	174	158	158	152	146	133	128	124	121	117	119	109	112	124	146	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 293

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	⌈147	159	182	181	156	112⌋	87	76	70	73	69	70	63	59	69	71	72	77	79	87	93	102	83	78	96	0
2	✓	✓	✓	75	77	76	66	62	50	49	54	59	57	59	63	72	69	77	72	83	70	77	71	75	85	79	92	70	0
3	✓	✓	✓	115	106	81	79	66	62	67	68	73	71	75	83	74	76	77	82	76	70	94	⌈119	105⌋	88	⌈95	147⌋	85	0
4	✓	✓		⌈118	107	150	167	140	94	111	125	113⌋	74	70	61	74	77	82	74	75	⌈100	146	103⌋	111	118	119	117	105	0
5	✓	✓		104	⌈145	219	222	201	231	275	177⌋	65	56	62	60	59	63	62	⌈70	86	99	107	121	143	140	167	157⌋	129	0
6	✓	✓		⌈169	167	196	284	318	325	244	185	189	167	149	124	118	102⌋	90	94	102	111	135	135	130	132	127	124	163	0
7	✓			122	121	130	106	102	78	105	103	120	108	112	104	100	91	94	91	⌈126	159	119⌋	118	130	114	109	90	110	0
8	✓			80	94	103	98	87	72	78	77	78	85	74	78	77	78	84	84	80	91	100	107	97	109	120	118	90	0
9	✓	✓		112	⌈147	201	219	187	127⌋	≷92	−26	N 0	47	N 54≶	63	65	71	69	69	73	83	83	90	87	⌈152	162	132⌋	98	1
10	✓	✓		⌈154	152⌋	96	103	99	95	100	64	59	65	67	65	64	65	62	68	77	97	103	110	107	95	83	76	89	0
11	✓	✓	✓	79	83	76	66	70	69	87	76	65	70	65	74	74	51	47	⌈76	107	111	136	194	207	190	189	201⌋	103	0
12	✓	✓		⌈234	259	214	169	199	272	250	156	115⌋	82	74	70	71	70	70	73	74	⌈99	143	183	194	175	212	262⌋	155	0
13	✓	✓		⌈268	301	291	236	134⌋	87	78	70	63	65	69	66	72	73	80	81	86	85	89	⌈193	282	294	303	312⌋	153	0
14	✓	✓		⌈334	294	216	91⌋	86	85	71	67	58	58	59	60	60	59	65	67	71	66⌈	75	161	147	144	148	171⌋	113	0
15	✓	✓		⌈189	161	178	203	227	143⌋	85	76	68	62	58	70	67	74	62	79	89	80	⌈124	156	187	202	202	268⌋	130	0
16	✓	✓		⌈244	310	334	339	306	222	206	130⌋	114	102	⌈108	169	201	227	193	224	293	322	249	205	189	223	231	233⌋	224	0
17	✓	✓		⌈270	249	87	95	90	106	249	364	240	164	138	138	132	140	124	131	138	179	197	200	152	134	161	178⌋	169	0
18	✓	✓		⌈174	181	211	226	230	203	128⌋	99	88	89	67	62	76	81	76	79	⌈79	89	97	105	84⌋	71	87	84	115	0
19	✓	✓	✓	110	143	127	101	75	66	63	47	55	54	60	65	62	66	64	74	75	74	91	64	49	42	49	44	72	0
20	✓	✓	✓	⌈107	125	85⌋	51	55	44	50	52	62	61	46	41	⌈42	N 43	41	34	45	49⌋	⌈112	155	161	206	224	230⌋	88	1
21	✓			⌈219	257	200	165	187	186	166	138	120⌋	96	88	82	87	91	91	91	91	94	⌈140	182	181	106⌋	84	118	136	0
22	✓	✓		⌈153	153	160	157	148	150	155	167	119	133	139	143	141	142	138	137	136	149	152	164	129	157	182	216⌋	151	0
23	✓	✓		⌈289	378	314	229	160	116⌋	87	88	91	96	90	⌈103	134	124	124	121	121	135	176	195	201	236	244	202⌋	169	0
24				⌈197	190	189	200	189	178	165	94⌋	73	66	62	70	74	66	68	70	—	—	—	—	—	—	—	—		0
25																													0
26																													
27																													
28																													0
29				—	—	—	—	—	—	—	—	—	96	111	114	109	116	116	107	111	100	112	100	86	⌈91	172	267⌋		0
30	✓	✓		⌈304	286	256	216	136⌋	103	93	81	67	58	58	57	57	60	69	60	⌈89⌋	66	62	88	⌈149	216	307	391⌋	139	0
31	✓	✓		⌈429	350	330	268	206	222	165	114⌋	136	143	126	117	119	112	112	⌈127	139	148	117	89	120	133	130	129⌋	170	0
MEANS * 25 DAYS				184	192	181	165	149	133	126	105	91	85	81	84	86	87	85	89	99	108	120	136	140	147	156	167	125	
MEANS † 22 DAYS				190	197	185	171	152	136	127	105	90	84	80	83	86	87	84	89	99	107	120	136	141	152	163	175	127	
MEANS ‡ 5 DAYS				97	107	89	73	66	58	63	59	63	67	66	68	67	68	70	73	77	81	89	87	82	79	76	75	75	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 294

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	741.6	24.3	44	37.2	14.8		12.7	SSE	3	E	14	ESE	5	SE	5		0		0	Somewhat smoky
2	742.0	29.2	33	40.3	19.3		12.7	ESE	11	ENE	11	NNE	4	E	2		0		0	
3	741.2	33.5	18	40.1	24.6		12.5	ENE	2	NNE	11	NE	3	S	5		0		0	Smoke haze in pm
4	738.0	34.5	13	40.1	15.9		12.4	SSW	1	NNE	2	SW	9	S	7	CiSt	1- 3	CiSt	1- 3	Smoky
5	738.6	25.5	43	37.1	15.4		12.3	S	5	ESE	6	SSW	2	S	5	CiSt	1- 3	CiSt	1- 3	
6	736.2	22.0	66	26.6	15.0		7.6	S	1	SSW	6	SW	5	S	6	ACu	7- 8	ACu	7- 8	Smoky
7	739.3	20.0	55	28.8	9.0		12.6	SSW	1	S	8	SSW	8	SSW	8	CiSt	1- 3	CiSt	1- 3	Much smoke in pm
8	739.9	19.3	61	24.3	9.9		3.1	SW	1	SSE	12	S	6	S	9	Ci; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Smoky in am
9	741.5	19.6	45	29.2	9.2		12.3	SSE	6	E	20	E	14	ESE	4		0		0	Air hazy or smoky
10	740.5	24.3	34	34.1	15.3		12.5	ESE	10	ENE	10	NE	10	ESE	4		0		0	Smoke haze
11	735.9	30.6	24	36.8	16.4		12.5	SE	3	NNE	4	SSW	14	SSE	12		0		0	Smoke haze
12	740.1	19.4	44	31.7	12.1		12.5	SE	10	ESE	16	ESE	10	SSE	10		0		0	Smoke haze
13	740.9	25.1	27	33.9	12.4		12.3	SSE	5	E	16	ESE	10	SE	6		0		0	Smoky from 16h onwards
14	740.9	26.0	37	35.9	15.3		12.6	SE	6	ENE	10	E	3	SE	8		0		0	Somewhat smoky
15	740.3	26.3	38	37.2	15.6		12.6	SE	4	E	9	SE	2	S	7		0		0	Somewhat smoky in pm
16	738.5	27.0	38	32.8	17.3		12.2	S	4	S	4	SSW	8	S	5		0		0	Much smoke all day; dew after 20h
17	742.2	21.7	57	31.6	13.4		12.3	S	6	ESE	8	SE	8	..	6		0		0	Dew early; much smoke all day
18	742.7	25.0	44	36.6	13.5		11.9	SE	4	E	12	E	6	SE	5		0		0	Dew early; slightly smoky in am
19	740.2	34.1	19	42.3	18.0		11.0	SE	2	N	8	N	6	..	0		0	Cu; StCu	1-3	Few clouds in evening
20	738.1	37.0	16	43.7	20.8		8.9	WNW	1	W	7	WSW	14	S	5	Cu; FrCu	1- 3	Cu; StCu	4-10	Smoky
21	740.5	24.1	53	33.3	15.5		12.1	SE	1	S	3	S	12	S	13	CiCu; FrCu	1- 3	CiCu; FrCu	1- 3	Dew early; smoke haze all day
22	742.9	19.5	45	27.2	14.6		12.3	SSE	12	SE	17	SSE	9	S	10	CiSt; ASt	1- 3	CiSt; ASt	1- 3	
23	742.9	20.7	37	28.4	11.6		12.1	SSE	2	E	8	SE	6	S	7		0		0	
24	740.7	22.8	31	33.3	11.5		12.2	SSE	1	ESE	6	..	..	S	9		0		0	Dew early; slightly smoky
25	738.4	28.9	27	38.7	13.5		12.0	SSE	1	ESE	10	SSW	1	SSE	4		0		0	Much smoke
26	737.2	30.9	26	42.2	14.9		11.7	SSE	3	NE	1	WNW	4	S	6		0		0	Smoky
27	738.1	24.5	63	34.4	17.3		11.3	SSE	4	S	5	S	5	SSW	8		0		0	Heavy smoke throughout
28	738.4	25.0	55	38.1	16.6		11.7	SSE	5	ESE	4	ESE	2	S	8		0		0	Dew early; much smoke
29	737.2	28.5	30	41.3	15.4		12.0	SSE	2	E	13	ESE	3	SE	2		0		0	Dew early; smoky throughout
30	734.7	35.5	16	45.4	22.0		11.1	SE	2	NNE	5	W	8	S	6		0	ACu	1- 3	Somewhat smoky
31	739.7	22.3	57	33.3	16.2		11.0	S	4	SSE	11	SE	8	SE	9		0		0	Somewhat smoky
SUM						0.0														
MEAN	739.7	26.0	39	35.4	15.2		11.6		4.0		8.9		6.8		6.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 295

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[108	106	101	99	110	129]	161	169	178	182	164	150	166	173	169	164	162	159	161	164	169	162	175	185	153	0
2	✓	✓		196	178	184	201	224	235	244	244	232	216	208	200	189	176	164	161	155	132	140	176	201	214	214	201	195	0
3	✓	✓		182	210	241	281	303	299	292	257	216	205	200	189	187	(110)	182	184	191	196	196	[148	191]	210	[198	140]	209	0
4	✓	✓		[145	113	92	85	106	122	111	108	129]	168	205	201	191	161	140	140	147	[111	59	124]	118	117	132	129	131	0
5	✓	✓		120	[96	70	61	53	40	37	68]	173	185	185	168	166	166	162	[148	113	115	115	117	111	110	86	88]	115	0
6	✓	✓		[81	72	61	44	37	29	35	44	40	40	53	53	52	77]	94	101	104	103	94	103	111	120	127	132	75	0
7				140	147	147	157	162	169	155	132	125	132	129	127	136	(141	136)	136	[68	37	104]	118	115	129	141	150		0
8				161	155	143	138	152	173	175	152	125	122	118	117	118	117	125	127	122	117	106	108	113	113	110	111		0
9	✓	✓		104	[92	75	81	97	131]	141	127	138	143	152	147	145	143	140	136	134	134	140	143	148	[104	75	90]	123	1
10	✓	✓		[97	124]	196	171	162	161	159	152	166	171	168	162	148	143	136	136	124	110	94	111	129	148	178	203	148	0
11	✓	✓		210	226	233	248	246	235	233	232	221	217	196	175	164	147	145	[85	75	92	72	70	70	79	92	75]	160	0
12	✓	✓		[61	55	66	72	55	40	53	85	101]	136	143	129	125	115	106	106	106	[83	59	53	53	57	55	55]	82	0
13	✓	✓		[57	55	66	79	127]	168	180	184	176	164	162	157	145	138	143	143	132	132	140	[92	39	39	39	44]	117	0
14	✓	✓		[44	42	74	166]	180	161	178	196	208	207	205	201	180	171	164	159	147	147	[134	72	75	77	77	68]	139	0
15	✓	✓		[57	57	57	55	59	118]	191	192	205	224	233	219	196	189	187	182	180	173	[127	92	83	72	63	64]	136	0
16	✓	✓		[74	66	53	53	61	79	97	145]	154	162	[131	63	46	39	63	42	13	22	52	92	106	92	75	72]	77	0
17	✓	✓		[74	66	53	55	61	61	37	35	53	72	77	92]	83	75	92	85	77	37	37	55	70	74	74	64]	65	0
18	✓	✓		[68	75	74	70	66	72	96]	108	97	110	145	145	115	101	92	85	[77	59	42	53	79]	104	111	110	90	0
19	✓	✓		106	108	138	155	198	196	207	241	224	200	180	155	127	127	124	108	[90	75	64	74	106]	162	212	217	150	0
20	✓	✓		[127	113	154]	251	276	251	251	264	205	187	143	145	[127	94	125	111	86	53	44	33	37	50	57	66]	135	1
21				—	—	—	—	—	—	—	—	—	134	148	159	155	(148)	150	161	162	162	[106	57	59	141]	162	132		0
22	✓	✓		[118	113	108	97	97	94	92	92	104	88	72	64	59	55	50	44	35	35	35	50	64	61	53	42]	72	0
23	✓	✓		[35	33	39	63	86	108]	132	143	140	117	110	[79	68	57	55	55	55	52	35	28	35	37	40	53]	69	0
24	✓			[63	57	55	53	50	48	59	108]	132	164	185	180	168	171	171	176	185	[161	77	63	57	63	66	59]	107	0
25	✓			[55	55	59	59	52	53	55	63	90	141]	187	196	180	173	164	[85	90	110	79	64	103	99	92	92]	100	0
26				[101	103	94	81	83	92	113]	157	180	182	178	—	—	—	—	—	—	—	—	—	—	—	—	—		–
27				—	—	—	—	—	—	—	—	—	—	[35	39	39	52	52	55	59	59	70	74	74	77	74	72]		–
28	✓			[70	66	59	70	44	48	55	92]	117	122	99	85	92	94	97	103	[74	44	29	74	75	72	74	83]	77	0
29	✓			[90	92	94	90	81	90	117]	145	143	138	125	124	115	111	113	108	110	110	118	131	143	[134	90	63]	111	0
30	✓	✓		[42	46	59	90	145]	162	173	201	217	203	196	161	161	136	125	124	[64	86	97	92	70	66	48	33]	117	0
31	✓	✓		[35	42	50	70	96	101	(113)	127]	127	108	113	117	118	115	110	83	[77	70	97	110	110	99	94	88]	95	0
MEANS * 26 DAYS				93	91	97	108	118	124	135	147	153	157	155	144	135	125	127	117	108	100	90	92	98	101	100	97	117	
MEANS † 22 DAYS				97	95	102	116	129	136	146	155	159	159	156	144	134	123	126	117	107	99	92	93	99	102	103	101	120	
MEANS ‡ 5 DAYS				164	167	190	227	249	243	245	248	220	180	180	170	149	144	137	131	122	107	100	116	137	158	178	183	173	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 296

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		83	72	66	70	76	102	149	173	187	193	170	152	166	174	169	162	156	150	145	139	136	131	161	167	140	0
2	✓	✓	✓	170	158	165	189	209	226	232	233	224	207	199	191	177	164	147	144	132	116	112	139	153	166	172	158	175	0
3	✓	✓		139	149	169	197	218	228	224	207	177	171	172	160	161	159	157	151	148	146	122	94	123	152	134	72	160	0
4	✓	✓		84	81	54	53	68	86	75	65	82	136	178	184	168	124	106	109	113	84	40	94	91	80	91	85	97	0
5	✓	✓		98	67	40	27	36	33	28	49	159	172	170	152	153	154	150	134	94	94	91	84	81	77	60	58	94	0
6	✓	✓		57	51	35	22	23	21	24	33	30	32	39	53	63	78	85	84	83	80	73	80	85	86	95	98	59	0
7				94	90	92	109	119	139	151	128	121	123	116	118	133	142	143	—	54	32	85	96	86	89	—	—		0
8				—	—	—	—	—	—	—	—	—	123	123	122	118	120	128	132	120	112	96	95	107	104	102	102		0
9	✓	✓		97	78	63	64	74	121	145	156	166	172	182	180	177	173	168	166	162	159	159	153	145	100	69	82	134	1
10	✓	✓		82	95	206	185	174	179	171	175	199	197	196	194	181	174	164	160	135	111	93	105	119	122	153	182	156	0
11	✓	✓	✓	401	413	432	241	244	231	205	224	233	224	220	198	190	163	157	90	72	85	71	61	57	68	74	61	159	0
12	✓	✓		51	41	53	62	46	35	44	78	106	153	168	160	148	(134	123	124)	116	87	62	51	51	54	49	46	85	0
13	✓	✓		43	42	43	65	112	171	207	216	213	196	196	190	179	170	170	165	153	154	155	91	39	39	37	32	128	0
14	✓	✓		31	33	58	175	186	163	194	213	234	234	236	229	204	197	(184)	176	158	154	137	59	64	65	64	53	146	0
15	✓	✓		44	45	51	46	44	95	191	201	220	241	243	223	207	199	198	181	175	167	113	73	64	54	46	43	132	0
16	✓	✓		44	35	33	32	43	55	73	125	128	141	114	53	33	31	48	32	12	16	35	64	70	63	43	43	57	0
17	✓	✓		36	31	32	39	51	43	28	26	53	64	71	75	75	65	77	73	69	35	32	43	54	63	54	48	52	0
18	✓	✓		51	50	44	42	35	46	80	103	94	106	153	153	114	99	94	77	74	54	38	41	64	89	94	93	79	0
19	✓	✓	✓	83	75	104	124	161	171	172	232	228	209	185	150	126	116	112	94	74	64	49	59	84	128	168	183	131	0
20	✓	✓	✓	91	73	124	194	202	199	201	207	166	158	121	125	104	72	104	89	65	33	28	23	27	30	32	32	104	1
21				38	35	36	39	33	41	52	69	82	104	124	126	129	—	—	138	135	131	83	52	50	114	136	104		0
22	✓	✓		87	84	80	75	74	71	72	74	91	79	65	54	52	52	44	41	35	33	32	45	64	57	46	36	60	0
23	✓	✓		30	24	29	42	73	103	143	160	155	135	127	86	69	63	58	59	57	53	36	29	38	38	41	49	71	0
24	✓			50	44	48	46	49	48	55	118	159	193	215	219	195	202	190	189	184	153	67	54	48	49	52	49	111	0
25	✓			48	44	44	42	41	37	41	50	64	121	175	188	179	172	164	87	79	98	69	48	83	75	67	61	86	0
26				68	65	68	63	55	70	76	130	140	164	171	173	179	184	174	153	104	106	68	42	39	31	37	39		–
27				46	56	60	48	—	—	—	—	—	—	—	—	28	33	32	38	42	43	46	45	45	38	42	42		–
28	✓			39	39	37	27	28	30	32	65	99	100	74	61	67	74	71	72	52	29	18	46	46	44	45	46	52	0
29	✓			51	54	53	42	42	54	81	117	121	114	101	96	94	87	84	84	79	80	82	90	101	101	57	37	79	0
30	✓	✓		26	26	33	56	96	114	124	158	173	167	162	136	140	118	98	98	46	65	72	63	46	41	29	19	88	0
31	✓	✓		17	23	23	35	45	42	63	92	92	80	89	94	96	96	84	64	63	52	77	87	80	73	65	62	66	0
MEANS * 28 DAYS				70	66	74	84	94	104	117	136	148	154	155	144	135	127	123	112	99	90	77	74	77	79	77	73	104	
MEANS † 22 DAYS				75	70	79	92	104	115	129	145	155	158	157	145	136	126	123	112	100	91	81	76	79	81	81	77	108	
MEANS ‡ 9 DAYS				138	134	159	189	207	211	207	221	206	178	181	170	153	145	137	127	114	99	87	97	111	127	150	157	154	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 297

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		[173]	[118	N101	N 95	124	95	90]	62	50	70	67	75	79	79	84	91	91	102	116	125	[147	202	209	223]	111	1
2	✓	✓		[227	180	214	229	202	173	128]	104	94	82	81	78	72	80	78	81	77	[79	140	188	231	285	253	235]	150	0
3	✓			[289	294	275	227	149	78]	66	69	76	75	68	63	63	72	78	76	[127	82	127	158	182	227	298	289]	146	0
4	✓			[343	260	253	209	257	305	345	318	325	254	218	163	151	183	194	185	148	131]	107	102	113	121	124	134	207	0
5	✓			158	143	131	129	122	121	104	95	[79	101	88	108	133	139	161	140]	125	[141	142	188	169	156]	116	118	129	0
6	✓			120	117	[176	162	146	150	145	122	104	103	114	116	111	111	112	122	131	147	145	112	109	216	143	137]	132	0
7	✓			[178	219	124]	89	75	86	84	94	103	111	98	105	104	103	103	100	[119	147	210	243	305	291	217	219]	147	0
8	✓			[187	178	217	181	154	140	131	175	171	171	163	165	148	125	114	163	207	154	108	202	185	161	120]	103	159	0
9	✓			107	120	126	129	119	105	92	74	92	115	116	103	85	79	76	82	87	87	91	120	[62	78	81	91]	97	0
10	✓	✓	✓	[103	107	103	103]	83	N 26	81	78	72	70	70	75	76	71	67	54	45	[70	159	176	211	230	151	177]	102	1
11	✓	✓		[207	231	193	189	178	162	179	141]	110	100	95	91	87	[107	149	114	89]	78	[120	183	207	255	199	187]	153	0
12	✓	✓		[206	205	164	131]	117	99	96	87	76	72	62	54	62	79	103	[116	127	154	179	236	209	175	189	179]	132	0
13	✓	✓		[146	301	350	409	398	335	272	244	254	227	202	200	178	171	161	143	161	158	110	132	145	226	148]	110	216	0
14				95	[136	144	200	230	227	196	113]	87	81	76	73	80	[89	101	112	109	101	164	149]	—	—	—	—		0
15				—	—	—	—	—	—	—	—	—	50	50	54	58	65	73	[87	93	138	223	238	232	213	236	245]		0
16	✓	✓		[236	263	312	268	140	174	201	210	204	179	158	136]	117	121	114	120	116	123	110	111	122	134	139	141	165	0
17			✓	129	135	128	114	109	103	118	145	109	108	109	115	112	107	96	80	65	54	69	81	106	109	107	[Z-]		1
18				[Z-	Z-	Z-	Z-	50	81	80	67	N 28	Z-	Z-	Z-	-151	-115	-134	-178	-52	N 13	N 13	50]	70	[140	182	174]		2
19	✓			[173]	151	136	135	118	81	59	81	103	100	104	116	102	95	96	96	91	97	95	[169	169	260	309	296]	135	0
20	✓	✓		[244	183	185	181	124]	110	110	111	76	68	71	75	92	93	90	94	93	[99	138	118	88	54]	49	57	108	0
21	✓	✓	✓	60	75	97	74	58	49	40	68	60	69	86	95	[118	130	145	156	137	136	166	196	209	142	139	103]	109	0
22	✓	✓		105	[63	66	96	116	124]	[103	85	-29	-43	N 19	83	107	122	122	125	114	116	102	145	165	154	196	218]	103	1
23				[192	185	211	190	185	143	117]	88	90	79	74	71	80	85	107	Z	Z-	Z	168	183	157	Z	Z	[216]		1
24	✓	✓		[145	163	185	210	182	128	121	92]	64	64	62	64	62	63	74	83	91	87	62	60	53	32	[212	215]	107	0
25				[153]	123	110	135	87	67	53	58	57	56	58	70	67	Z	Z	Z	[134	119	223	350	Z+	375	248	233]		1
26	✓	✓		[289	338	248	211	173	212	167	177	211	244	240	247	223	183	159	137	137	182	247	250	341	260	182	215]	220	0
27	✓	✓		[164	112	122	120	130	94	107]	104	87	86	93	96	106	121	120	120	122	[134	217	274	227	276	298	308]	152	0
28				[261	211	175	119]	98	93	83	91	86	99	103	98	93	89	91	95	94	[181	355	Z+	Z+	336	281	267]		0
29																													
30																													
31																													
MEANS * 21 DAYS				184	182	179	173	150	137	130	123	113	110	108	110	108	111	114	114	116	119	138	166	174	187	180	179	142	
MEANS † 13 DAYS				177	180	180	178	156	139	130	120	102	99	100	105	106	109	113	110	108	117	144	169	181	187	182	182	141	
MEANS ‡ 3 DAYS				97	106	109	97	83	59	80	97	80	82	88	95	95	98	93	99	99	103	113	116	91	89	90	96	94	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 298

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	741.3	22.7	48	35.3	16.8		11.4	E	14	E	14	ESE	7	SSE	4		0		0	
2	740.3	26.0	40	41.7	18.0		12.1	SSE	4	ESE	9	SSE	2	SSE	7	ASt	1- 3	ASt	1- 3	Smoky
3	738.3	27.6	44	42.3	19.1		10.9	..	0	ENE	6	S	3	S	6	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Very smoky
4	737.7	23.5	58	33.8	15.6		11.6	S	5	S	4	..	0	SSW	6	CiSt	1- 3	CiSt	1- 3	Very smoky in am, clearing later
5	739.1	19.1	77	27.3	15.5		8.6	S	8	S	7	S	5	S	9	Cu; CuNb	7-10	ACu	4- 6	
6	740.6	18.6	52	26.4	8.5		12.2	S	3	SSE	9	S	7	S	5	CiSt; ACu	1- 3	CiSt; ACu	1- 3	Dew early
7	740.2	21.4	49	35.2	11.7		11.9	SSE	4	E	7	SE	1	S	4	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Dew early; much smoke in pm
8	740.5	22.6	59	34.3	15.0		10.5	S	5	SE	4	S	6	S	7	CiCu; CiSt	4- 7	CiCu; CiSt; ASt	4- 6	
9	741.2	24.7	44	37.9	16.0		9.4	SSE	7	ESE	6	ESE	7	SSE	8	ACu	10- 7	ACu	6- 1	
10	741.2	27.0	39	40.5	20.5		9.9	SE	3	ESE	9	SE	4	SSE	9	ACu	6- 3	ACu	3- 1	Heavy smoke in pm
11	741.0	27.7	46	38.9	20.2		11.4	SE	3	ESE	7	SE	5	S	5	ACu	1- 3	ACu	4- 6	Smoky all day
12	738.5	24.3	46	37.1	20.2		9.7	ESE	5	E	10	SSE	3	S	9	ACu	4- 6	ACu	1- 3	
13	737.9	22.5	63	31.7	15.7		11.5	SSE	7	SSE	9	SSE	7	SSE	7		0		0	Very smoky all day
14	737.7	25.0	41	36.0	14.0		11.9	SSE	5	E	6	ESE	2	SSE	6		0		0	Dew early; smoky in evening
15	735.6	30.5	22	41.1	15.6		11.7	SSE	4	ENE	5	W	4	SSW	3		0		0	
16	737.3	22.9	59	30.7	13.6		11.5	..	0	SSW	4	SSW	6	S	8	ACu; ASt	6- 3	ACu	3- 1	Dew early
17	741.0	22.3	56	29.3	14.2		10.4	SSE	2	SE	13	ESE	11	SSE	8	FrCu; StCu	2- 6	FrCu; StCu	4- 6	Much smoke in pm
18	742.8	18.1	48	24.7	13.5		6.1	ESE	18	E	18	ESE	20	E	13	ASt	10	ASt	10	
19	741.1	21.0	56	29.6	14.6		10.7	E	9	E	9	SE	9	SSE	5	ACu	1- 3		0	
20	741.6	23.1	49	32.2	14.4		11.5	SSE	3	NE	6	S	2	SSE	6		0		0	
21	739.8	23.5	55	31.0	14.4		11.6	S	2	S	4	S	8	SSE	6		0		0	Smoky
22	742.6	22.5	55	34.9	14.9		11.3	SSE	5	E	16	E	4	ESE	5		0		0	Dew early; smoky in pm
23	740.7	31.7	30	39.5	19.4		7.8	ESE	3	NNE	14	NNE	4	S	1	ACu; Cu; CuNb	1- 3	ACu; Cu; CuNb	4-10	Few drops rain in pm; shower at 20h, then clearing
24	741.6	32.3	27	39.1	20.3	T	10.2	SSE	3	NE	5	NE	5	WSW	2	ACu	1- 3	ACu	4- 6	Fires in S; lightning in SW in evening
25	739.2	33.6	34	40.3	23.5		9.8	ENE	1	NNE	6	SW	13	SSE	6		0	Cu; CuNb	4- 6	Thunder and lightning in pm; much smoke in evening
26	740.1	22.2	71	33.2	16.2		10.3	WNW	1	S	7	S	4	S	5		0		0	Very smoky
27	740.2	23.0	58	34.1	15.2		11.5	SSE	2	ESE	7	SE	3	SSE	6		0		0	Dew early; smoky all day and evening
28	738.5	23.3	52	36.0	17.8		10.9	SSE	3	ESE	9	ESE	1	S	8		0		0	Smoky in pm
29																				
30																				
31																				
SUM						0.0														
MEAN	739.9	24.4	49	34.8	16.2		10.3		4.6		8.2		5.5		6.2					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈77	96	70	55	(55	74)	92⌋	106	118	110	113	113	115	111	108	108	110	108	92	97	⌈90	61	59	59⌋	92	1
2	✓	✓		⌈57	63	66	68	79	97	115⌋	127	134	147	159	168	169	166	162	145	138	⌈124	79	74	63	50	50	48⌋	106	0
3				⌈48	39	40	55	86	138⌋	152	152	147	145	154	166	155	—	—	—	—	—	—	—	—	—	—	—	—	0
4																													
5				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	⌈97	50	39	85	108⌋	121	121		0
6				119	121	⌈83	86	90	79	79	75	80	82	63	52	58	61	52	53	35	21	64	90	97	52	92	74⌋		0
7				⌈51	57	94⌋	105	93	95	100	84	86	84	90	93	94	97	109	107	⌈89	26	32	27	43	43	73	66⌋		0
8				⌈69⌋	—	—	—	—	—	—	—	—	⌈54	64	53	65	75	90	67	16	30	82⌋	—	—	—	—	—		0
9				—	—	—	—	—	—	—	—	—	—	83	80	87	85	85	66	62	67	76	⌈39	59	68	58	52⌋		0
10	✓	✓		⌈50	51	57	75⌋	79	82	91	94	96	95	84	79	85	92	92	72	66	⌈57	16	16	20	21	43	45⌋	65	1
11	✓	✓		⌈40	41	41	44	48	49	53	71⌋	85	85	87	86	85	⌈61	19	37	66⌋	89	⌈55	48	37	25	45	44⌋	56	0
12	✓	✓		⌈49	53	82	103⌋	116	121	125	127	126	117	118	130	130	113	96	60	60	37	46	52	62	71	64	57	88	0
13	✓	✓		⌈62	49	38	32	28	28	26	26	29	33	34	33	40	40	46	56	48	37	63	52	51	30	57⌋	69	42	0
14	✓			79	⌈72	56	39	33	37	49	84⌋	114	119	121	120	116	⌈80	54	52	66	61	34	43	44	40	37	40⌋	66	0
15	✓			⌈42	43	40	48	56	66	88	144⌋	186	218	206	193	181	165	167	⌈106	92	96	51	58	88	85	64	65⌋	106	0
16	✓	✓		⌈68	63	57	57	82	75	64	66	64	74	79	83⌋	83	90	99	92	98	114	127	143	140	132	139	143	93	0
17	✓			140	132	135	140	130	126	122	97	116	106	⌈79	55	43	39	23	16	16	12	28	52	49	47	47	35⌋	74	1
18				⌈24	19	20	42	46	57	80⌋	80	77	59	⌈52	38	41	41	37	25	30	32	34	47	49	48	52	65⌋		2
19				⌈64⌋	90	89	100	100	124	153	147	110	90	⌈67	48	59	40	34	25	25	30	36	31	32	34	32	34⌋		0
20	✓	✓		⌈41	49	51	70	106⌋	123	131	150	203	211	173	149	⌈131	157	97	100⌋	115	⌈86	37	49	69	120⌋	130	125	111	0
21	✓	✓		118	88	90	107	107	114	105	85	83	91	71	66	⌈65	67	66	47	67	73	35	39	51	112⌋	111	130	83	0
22	✓	✓		124	115	⌈99	68	60	51	52	57	62	50	62	62	59	57	62	66	65	42	34	41	40	50	50	52⌋	62	1
23	✓			⌈60	68	72	78	85	95	138⌋	177	151	144	148	143	⌈120	116	83⌋	≷61	88	33≷	⌈3,1	39⌋	≷35	33	73≷	⌈73⌋	89	1
24	✓	✓		⌈100	85	82	82	87	102	104	145⌋	206	174	190	165	155	158	151	144	145	137	160	⌈126⌋	129	142	⌈92	62⌋	130	0
25	✓			⌈135⌋	156	158	167	204	240	263	258	240	222	213	160	143	≷130	80	134≷	⌈81	71	68	32	33	42	67	76⌋	141	1
26	✓	✓		⌈62	57	58	62	49	43	45	41	33	28	25	25	29	34	41	52	60	51	41	39	35	32	36	41⌋	42	0
27	✓	✓		⌈52	57	52	59	66	75	87⌋	99	108	107	97	91	83	79	80	75	71	⌈68	38	35	48	45	40	42⌋	69	0
28				⌈46	58	75	111⌋	126	131	146	138	140	118	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
29																													
30																													
31																													
MEANS * 18 DAYS				75	74	72	75	82	89	97	109	120	118	114	107	102	98	85	79	81	72	58	58	60	63	67	67	84	
MEANS † 13 DAYS				69	67	65	68	74	80	84	92	104	102	99	96	95	94	86	81	85	79	63	62	64	69	70	71	80	
MEANS ‡ 3 DAYS				103	90	94	107	105	107	106	92	98	97	78	67	100	111	94	86	92	89	80	77	89	107	109	107	96	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 300

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[46	64	53	43	42	52	66]	91	112	104	110	109	110	105	97	93	94	90	72	68	[65	46	43	42]	76	1
2	✓	✓		[40	48	49	49	55	65	94]	113	123	138	146	151	150	143	141	124	117	[103	65	54	48	33	31	30]	88	0
3				[26	25	24	36	55	101]	119	128	127	125	129	142	132	109	119	[45	—	—	—	—	—	31	29	27]		0
4				[23	27	29	27	24	22	19	23	25	32	38	50	46	(40)	44	49	71	94]	115	121	110	103	100	94		0
5				88	92	101	104	104	—	—	—	—	[103	113	94	77	70	55	85]	123	[97	49	39	80	99]	121	118		0
6				108	—	—	—	—	—	—	—	—	—	—	—	—	—	—	[59	43	24	64	88	95	45	96	74]		0
7				[46	48	93]	102	104	107	115	98	—	—	—	—	—	—	—	—	—	—	—	—	[36	33	56	55]		0
8				—	—	—	—	—	—	—	—	—	[49	57	50	58	71	89	72	16	28	80	42]	—	—	—	—		0
9				127	115	110	100	94	112	122	134	124	73	84	81	92	89	87	68	64	67	74	[37	58	64	55	48]		0
10	✓	✓	✓	[45	46	44	65]	70	80	80	87	96	94	83	75	82	88	89	71	64	[54	16	14	17	121	36	36]	65	1
11	✓	✓		[32	28	28	31	36	37	41	55]	73	75	77	76	73	[53	21	28	56]	71	[48	32	28	17	30	31]	45	0
12	✓	✓		[31	36	54	75]	87	94	100	108	112	105	103	116	114	95	77	[48	46	31	37	36	44	54	48	44]	71	0
13	✓	✓		[48	31	27	22	21	23	23	22	24	27	26	25	30	33	40	46	39	30	55	50	45	25	52]	64	39	0
14	✓			74	[63	50	31	25	28	39	81]	118	124	125	123	114	[79	54	49	55	52	32	40	41	33	33	33]	62	0
15	✓			[37	40	38	40	45	57	73	136]	184	219	207	196	191	176	178	[103	82	82	43	43	43	60	58	50]	99	0
16	✓	✓	✓	[43	33	24	32	55	53	41	45	50	57	65	70]	74	76	84	79	84	92	104	115	112	104	106	108	71	0
17	✓			113	90	87	109	112	106	100	86	113	104	[81	56]	43	40	25	18	18	14	31	51	45	43	41	46]	66	1
18				[48	39	26	48	53	58	88]	92	94	79	[78	55]	54	53	50	38	42]	—	—	—	—	—	—	—		2
19				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	[32	38	31	29	28	25	26]		0
20	✓	✓	✓	[28	35	41	46	91]	114	128	151	208	214	175	155	[129	75	93	95]	104	[78	32	43	64	113]	125	117	102	0
21	✓	✓		111	84	80	98	104	110	104	86	85	93	71	63]	[57	63	60	41	61	65	33	31	39	88]	92	119	77	0
22	✓	✓		107	111	[94	56	50	46	54	57	69	57	64	64	57	54	55	55	56	38	29	32	32	40	41	43]	57	1
23	✓			[50	51	49	55	57	74	109]	155	133	130	131	133	[110	65	66]	≷107	40	25≷	[27	29≷	30	68	51≷	[46]	75	1
24	✓	✓		[69	59	59	56	62	75	75	118]	170	149	167	145	140	143	128	115	113	105	130	[95]	96	113	[58	35]	103	0
25	✓			[75]	80	98	98	137	176	191	201	197	192	189	136	120≷	129	144	46≷	[54	54	42	18	18	24	37	41]	104	1
26	✓	✓		[35	26	30	31	32	29	31	30	23	19	19	19	19	25	29	38	43	36	27	23	22	24	27	28]	28	0
27	✓	✓		[36	39	33	36	44	59	69]	80	97	94	84	78	71	64	64	62	57	[55	31	26	36	31	26	27]	54	0
28				[31	43	55	82]	101	110	128	126	126	110	105	105	109	111	113	109	109	[55	15	15	22	26	32	33]		0
29																													
30																													
31																													
MEANS * 18 DAYS				57	54	52	54	62	71	79	95	110	111	107	99	94	84	80	68	66	60	47	44	46	58	52	52	71	
MEANS † 13 DAYS				52	49	47	49	58	64	70	80	96	94	92	88	85	78	75	69	72	65	52	48	50	62	55	56	67	
MEANS ‡ 3 DAYS				90	73	70	91	95	99	95	86	98	97	78	65	95	80	88	81	84	79	70	65	78	94	95	91	85	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 301

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			187	211	273	320	317	290	195	152	143	139	126	112	124	110	106	101	101	82	103	N100	116	128	116	141	157	1
2				143	149	166	133	111	99	97	106	119	103	107	101	103	99	93	92	101	106	109	109	—	—	—	—		0
3				—	—	—	—	—	—	—	—	—	117	128	130	119	131	134	138	129	131	129	181	167	173	175	189		0
4				185	194	208	217	166	97	120	104	96	82	78	75	83	105	99	117	Z	Z	Z	Z	Z	106	109	102		1
5				105	127	117	98	86	79	84	78	84	86	76	76	78	84	Z	Z	Z	Z	141	84	Z	Z	Z	85		2
6	✓			100	76	96	82	90	76	64	76	90	92	94	87	87	88	79	85	108	159	154	114	165	148	163	135	103	0
7	✓	✓	✓	101	89	98	89	66	80	80	103	109	145	134	110	99	84	81	91	95	113	116	119	116	160	112	99	104	0
8	✓	✓		140	116	106	115	80	78	84	70	124	115	105	91	84	82	82	84	93	106	114	145	277	193	133	133	115	0
9				116	142	177	257	214	214	269	229	—	99	99	85	81	88	117	157	Z+	122	140	172	224	109	66	106		0
10				102	106	111	112	100	103	65	79	81	69	79	98	93	Z−	91	90	78	59	Z	Z	95	105	147	133		1
11	✓	✓		130	167	171	173	135	143	160	121	81	75	82	81	89	87	88	89	83	88	161	162	151	189	176	179	128	0
12	✓	✓		201	176	144	115	72	61	57	63	67	62	62	62	71	82	82	84	94	92	97	98	96	100	93	89	92	0
13	✓	✓		86	83	84	83	77	53	45	46	50	53	60	66	68	71	84	87	100	87	96	84	144	162	150	152	86	0
14	✓	✓	✓	129	106	94	97	98	84	80	72	60	75	72	83	81	87	85	92	109	102	102	147	143	120	119	113	98	0
15	✓	✓		120	101	80	71	71	58	54	61	67	52	50	62	80	88	89	97	88	83	90	155	196	178	116	98	92	0
16	✓	✓	✓	97	102	84	87	65	53	43	43	50	58	63	62	72	73	79	75	70	79	88	99	125	134	98	90	79	0
17	✓	✓	✓	81	86	99	68	62	53	46	54	55	62	72	71	72	79	90	92	92	75	90	88	119	132	125	114	82	0
18	✓	✓	✓	94	98	74	65	56	53	55	60	74	73	67	77	81	80	85	96	95	98	72	70	67	90	97	90	78	0
19	✓	✓	✓	84	75	73	69	74	63	63	70	61	64	69	73	77	88	83	90	91	99	89	83	134	130	99	94	83	0
20	✓	✓		87	75	88	63	56	52	53	54	56	55	66	58	N 40	N 9	54	43	N 33	42	N 49	60	57	66	71	55	56	1
21	✓	✓	✓	67	83	70	45	55	46	40	38	25	45	51	45	49	50	57	66	70	72	70	79	80	80	68	67	59	0
22	✓	✓	✓	65	59	52	47	51	52	53	51	56	56	67	62	N 62	70	74	75	88	94	123	156	142	139	138	139	82	1
23	✓			115	95	94	82	79	77	70	69	70	73	68	94	80	79	77	87	74	81	76	109	105	132	105	112	88	0
24				140	81	126	116	69	63	56	56	58	66	66	62	76	78	87	88	91	Z	Z	Z+	Z	Z	Z	Z		2
25				150	Z+	Z+	110	101	91	89	69	67	80	88	80	75	81	85	99	226	272	164	114	100	95	134	136		0
26				97	77	53	52	59	37	61	62	62	86	82	82	82	84	66	66	75	85	105	99	99	113	—	—		0
27				—	—	—	—	—	—	—	—	—	84	80	81	84	81	76	80	84	105	130	145	197	248	238	242		0
28	✓			242	204	163	95	93	108	99	110	103	103	106	97	92	106	102	115	92	156	210	182	192	229	133	123	136	0
29				125	114	101	97	Z	102	136	Z	Z	−10	N 0	91	93	108	66	115	117	162	150	177	224	225	225	211		1
30	✓			228	225	211	177	186	189	200	209	117	60	85	93	109	110	115	117	107	119	149	147	147	177	291	345	163	0
31	✓	✓		348	386	394	331	275	219	164	86	70	67	79	102	114	112	112	128	117	119	115	201	205	307	384	316	198	0
MEANS * 20 DAYS				135	132	125	113	103	93	85	80	76	76	79	79	82	82	85	90	90	97	108	120	139	150	139	134	104	
MEANS † 15 DAYS				182	120	114	101	86	77	72	66	67	70	73	74	76	76	82	86	88	90	98	116	137	145	132	122	96	
MEANS ‡ 8 DAYS				90	87	80	71	66	61	58	61	61	72	74	73	74	76	79	85	89	92	94	105	116	123	107	101	83	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 302

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1930

DAY	AT 09 O'CLOCK			DAILY				WIND				CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR. VEL.	08h-09h DIR. VEL.	14h-15h DIR. VEL.	20h-21h DIR. VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr	mi/h	mi/h	mi/h	mi/h					
1	734.7	20.5	60	24.8	16.9		7.8	SSW 7	SSW 8	SW 14	WSW 9	Cu; CuNb	7-10	Cu; CuNb	7-10	Rain in evening and at night
2	737.9	17.7	79	24.1	9.4	0.03	7.2	W 6	WSW 5	SW ..	S ..	Cu; Nb	7-10	Cu; Nb	4- 6	Rain perhaps in early hours; few showers during day
3	743.5	18.4	56	28.1	10.4	0.01	11.5	.. 0	.. 0	ESE 3	SSE 6	FrCu	1- 3	FrCu	1- 3	
4	740.8	24.5	40	37.3	13.6		10.1	SSE 4	E 9	ENE 5	NE 10	ASt; FrCu	1- 3	Cu; CuNb	4-10	Rain in pm after 17h, with thunder and lightning
5	738.4	29.4	42	37.4	19.7	0.56	8.6	NE 2	NNE 9	NNE 3	.. 0	ACu	3- 6	CuNb; Nb	7-10	Thunder and lightning in pm and eve.; few drops rain in pm
6	738.4	23.7	73	33.9	19.0	T	10.1	.. 0	NW 6	WNW 7	.. 0	CiSt; CiCu	1- 4	CiSt; CiCu	4- 1	Clear in evening, with lightning in NE
7	739.2	21.5	76	33.7	14.1		11.1	.. 0	E 1	W 5	SW 1	CiSt	4- 6	CiSt	3- 1	Dew early; lightning in NE and SE in eve.; smoky at 9h
8	739.5	23.2	67	32.3	14.2		10.6	.. 0	.. 0	W 5	SSW 2	CiSt	4- 6	CiSt	3- 1	Dew early; smoky at 9h
9	740.3	20.9	71	31.4	12.7		8.8	.. 0	NW 1	SW 4	SSW 3	ACu; ASt	1- 3	ACu; ASt	1- 3	Heavy mist until 8h
10	741.3	21.3	77	26.8	16.1		1.1	SSW 1	SSE 3	SSE 2	SSW 3	ACu; ASt; Nb	10	ACu; ASt; Nb	10	Heavy thundershower at 18h; few drops rain early in day
11	742.8	21.4	68	29.2	16.0	0.05	8.6	S 2	SSE 5	SSE 2	S 6	ACu; ASt; Cu	1- 6	ACu; ASt; Cu	4- 6	Thin haze over part of sky
12	744.3	24.0	54	30.7	16.5		10.9	SSE 1	ENE 8	ESE 4	E 5	CiSt	2- 6	CiSt	1- 3	Thin haze over part of sky
13	744.2	25.0	52	32.1	19.1		6.8	ENE 2	ENE 5	E 3	ESE 3	Ci; CiSt	9- 4	Ci; CiSt	4- 6	
14	744.4	26.5	49	33.6	20.7		9.8	E 2	ENE 4	ESE 3	ESE 4	CiSt; ACu	7- 4	CiSt; ACu	3- 1	Lightning in N in evening
15	743.6	26.8	47	33.6	18.0		10.2	ESE 5	ENE 4	SE 2	SSE 2	CiSt	1- 3	CiSt	1- 3	
16	744.8	24.7	48	33.1	19.5		10.8	E 8	E 10	ESE 5	ESE 7	CiSt	1- 3	CiSt	1- 3	
17	744.3	26.2	41	33.3	18.9		10.7	E 5	NE 9	ENE 4	ESE 3	CiCu	1- 3	CiCu	1- 3	
18	742.4	26.5	38	32.9	19.3		9.6	E 2	NNE 8	ENE 5	E 2	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Fires in various directions
19	739.9	27.8	37	35.0	16.4		8.9	SE 3	NE 7	NE 8	E 2		0	ACu; Cu	1- 8	
20	740.3	27.5	40	32.6	19.5		0.3	N 2	ENE 4	NE 14	NE 7	CiSt; CiCu; ASt	10	CiSt; ASt; CuNb	10	Few drops rain in pm
21	742.6	29.0	39	32.3	25.3	T	0.2	NE 2	ENE 4	NNE 13	NW 1	ACu; ASt	10	ACu; ASt	10	
22	743.2	28.1	34	33.6	20.0		3.8	SSE 1	E 2	ENE 7	ENE 8	CiCu; ACu; ASt	7-10	CiCu; ACu; ASt	7-10	
23	739.9	27.5	30	33.7	20.8		8.8	E 3	NNE 8	NNE 7	WSW 1	ACu; ASt	1- 3		0	Fires nearby
24	739.9	24.9	57	33.6	17.0		5.6	.. 0	N 1	N 3	E 2	ACu; ASt	7-10	ACu; Cu; Nb	10	Thundershowers in evening and at night
25	741.3	24.5	74	31.7	19.5	0.03	6.4	.. 0	WNW 2	W 6	W 1	ACu; ASt; Cu	9-10	ACu; Cu; Nb	10	Thunder and lightning to NE in pm; clearing in evening
26	742.5	23.0	77	26.9	17.5	T	4.9	.. 0	NNW 2	SW 4	S 2	CiSt; ASt; Cu	10- 7		6- 4	Lightning in E in evening
27	742.7	21.9	67	29.4	13.7		9.8	S 1	SSE 1	W 3	S 3	CiSt; Cu	3- 8	CiSt; Cu	8- 3	Dew early
28	744.5	19.5	70	28.1	15.3		7.3	.. 0	ESE 4	SSE 1	SSE 5	ACu; Cu; FrCu	8- 4	ACu; Cu; FrCu	4- 6	Dew early
29	744.0	17.5	89	23.8	16.1	0.07	0.3	SSE 2	S 6	S 4	S 4	Cu; Nb; ASt	10- 7	ASt; Cu; CuNb	6- 1	Rain 8h-9h; dew at 23h; clear in evening
30	745.4	19.2	76	27.2	14.2		6.4	SSW 1	ESE 7	SE 4	SSE 6	StCu; ASt	10- 7	CiSt; CiCu	7- 8	Fog early
31	745.9	20.0	62	25.8	12.4		10.2	SSE 2	E 8	SE 7	SSE 4	CiSt	3- 6	CiSt	1- 3	
SUM						0.75										
MEAN	741.8	23.6	58	31.0	16.8		7.6	2.1	4.9	5.2	3.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 303

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	148	147	150	147	137	130	123	129		1
2	✓			129	125	124	140	151	154	160	157	136	135	127	109	104	112	127	134	135	136	150	145	144	139	135	125	135	0
3				126	132	140	139	141	[137	135]	174	140	119	97	90	96	84	—	—	—	93	96	[65	72	71	75	66]		0
4	✓			[63	59	62	79	111]	161	172	165	160	178	185	176	147	91	104	(80)	57	140	149	133	136	170	184	197	132	1
5	✓			204	186	184	215	220	212	217	232	179	177	184	181	175	170	175	93	57	97	100	138	172	26	137	160	162	2
6				157	153	198	207	191	206	195	184	148	131	113	118	124	133	144	145	[121	41	68]	114	106	108	110	107		0
7	✓	✓	✓	109	119	125	143	149	121	127	117	119	[81	92	104]	119	135	135	132	130	111	108	114	106	[79	99	104]	116	0
8	✓	✓		[92	98]	117	129	147	154	157	171	132	130	131	141	153	149	152	147	121	96	106	105	[36	82	97	106]	123	0
9	✓			[120	107	87	70	79	72	78	82	126]	154	148	151	160	156	[110	34	99	110	93	89	54	127]	157	127	108	0
10	✓			133	146	143	145	120	138	186	150	141	141	134	138	148	122	135	105	164	151	73	120	134	[122	78	96]	132	1
11	✓	✓		[99	75	69	76	93	79	70	111]	141	151	149	104	87	92	109	126	119	113	[30	41	54	55	73	81]	92	0
12	✓	✓		[77	86	98	135]	214	233	238	237	232	220	219	194	[153	136]	161	162	151	129	112	118	132	141	144	144	161	0
13	✓	✓		162	172	184	197	221	246	262	285	281	237	204	201	203	197	162	151	108	123	119	138	[97	95	108	105]	177	0
14	✓	✓	✓	[135]	181	205	200	205	222	207	224	237	201	211	179	167	170	174	133	105	113	111	[91	76	117]	119	122	163	0
15	✓	✓		134	162	195	227	237	246	251	252	236	262	232	203	154	132	130	111	120	121	118	[68	44	65	98]	129	164	0
16	✓	✓	✓	132	133	184	[163]	211	226	238	231	214	197	194	214	208	[177	134	95	104	147]	156	(119	70)	[111]	168	181	167	0
17	✓	✓	✓	218	[200	168]	252	274	285	287	267	228	202	188	183	183	164	[152	53	51]	97	86	108	[86	89]	107	146	170	0
18	✓	✓	✓	184	168	215	237	287	310	290	285	231	226	211	197	179	140	136	(138)	123	129	153	143	148	140	152	180	192	0
19	✓	✓	✓	188	201	208	226	235	261	267	299	274	244	208	192	184	181	181	166	166	157	176	[175	95	127]	206	203	201	0
20	✓	✓		231	269	268	296	311	330	308	317	301	255	219	197	171	187	213	216	194	184	164	190	175	200	226	183	234	1
21	✓	✓	✓	206	226	233	270	295	301	315	392	375	280	229	202	181	162	173	166	180	176	178	189	197	201	219	229	232	0
22	✓	✓	✓	223	241	302	318	322	311	292	290	279	228	232	226	205	190	200	172	171	132	[118	93	126]	136	139	147	212	1
23				159	—	—	—	—	—	—	—	—	—	214	[164	119	175]	187	186	197	198	200	[159	118	130	139	139]		0
24				[122	126	157	205]	270	271	288	308	291	236	226	236	224	184	162	157	166	89	60	102	118	—	92	—		2
25				—	—	—	—	—	—	—	—	—	202	172	165	172	161	156	163	164	143	123	153	189	192	—	—		0
26				—	—	—	—	—	—	—	291	266	221	211	204	189	184	150	179	190	197	194	195	185	166	148	150		0
27	✓			172	174	181	156	167	146	137	178	197	208	211	204	194	181	179	183	145	[126	108	126	99	86	100	97]	156	0
28				[100	114	121]	162	158	150	159	150	151	158	156	157	153	149	141	103	127	[84	40	58	68	65]	125	135		0
29				120	118	125	145	107	126	107	85	—	—	109	123	[106	103]	120	112	110	[108	111	105	89	87	86	89]		1
30				[83	79	78	68	60	58	59	60	134]	200	183	164	151	139	141	127	111	—	—	—	—	[81	55	53]		0
31	✓	✓		[86	54	57	60	69	85	109	218]	254	239	198	141	127	133	116	109	108	[86	91	48	51	32	33	44]	106	0
MEANS * 21 DAYS				147	152	162	178	196	204	208	222	213	197	186	173	162	151	150	129	124	127	119	119	106	111	132	138	159	
MEANS † 15 DAYS				152	159	175	195	218	227	228	246	236	210	194	179	165	156	155	138	130	128	122	116	100	111	133	140	167	
MEANS ‡ 8 DAYS				174	184	205	226	247	255	253	263	245	207	196	187	178	165	161	132	129	133	136	129	113	125	151	164	182	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 304

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[43	42	35	24	22	26	32	42	46	56	76]	120	≷ 60 ≶	120	124	130	133	130	133	128	123	107	102	99		1
2	✓			96	94	86	95	124	137	148	156	136	147	129	105	103	114	130	139	139	133	128	124	119	121	120	103	122	0
3				103	107	113	98	103	[110	98]	172	148	124	97	90	92	78	72	74	88	78	83	[56	62	63	64	54]		0
4	✓			[52	51	49	55	83]	131	143	160	164	187	194	184	155	≷ 88	97	94	61	(100)	138	120	93	145 ≶	154	161	119	1
5	✓			160	140	130	147	147	167	166	178	155	156	161	161	153	150 ≶	150	62	21	56	76	99	111	157	114 ≶	124	131	2
6				112	105	151	163	—	—	—	—	150	110	94	94	100	112	125	128	[103	35	48]	74	60	65	68	64		0
7	✓	✓	✓	69	73	68	92	99	87	92	89	85	[58	62	76]	89	101	118	116	111	92	82	74	72	[53	68	72]	83	0
8	✓	✓		[54	65]	79	79	89	111	103	123	86	91	97	113	124	130	133	125	101	77	76	70	[26	43	52	66]	88	0
9	✓			[64	64	50	41	38	39	45	61	100]	117	120	129	137	136	[98	25	75	91	66	61	35	95]	124	93	79	0
10	✓			95	95	104	114	101	108	138	127	123	123	116	108	115 ≶	126	102	82	131	128	86	81 ≶	98	[94	61	69]	105	1
11	✓	✓		[65	54	54	55	69	59	53	84]	124	129	124	88	72	76	90	101	95	86	[24	33	43	43	52	54]	72	0
12	✓	✓		[51	58	78	114]	171	202	213	207	200	196	192	175	[135	116]	134	139	125	109	93	103	108	117	119	119	136	0
13	✓	✓		133	141	148	153	187	212	226	250	250	210	180	176	177	178	137	127	92	104	92	97	[70	64	65	63]	147	0
14	✓	✓	✓	[94]	144	156	166	175	182	178	194	211	163	176	153	141	145	152	107	86	94	91	[70	57	79]	76	77	132	0
15	✓	✓		94	126	165	193	193	205	210	219	216	232	204	180	129	113	106	93	99	99	89	[52	32	43	73]	103	136	0
16	✓	✓	✓	107	113	161	[151]	184	207	226	215	205	190	183	198	193	[164	121	82	97	128]	132	114	[87	90]	143	162	152	0
17	✓	✓	✓	191	[169	142]	222	245	253	249	249	221	189	171	175	169	153	[135	48	43]	86	74	89	[76	66]	81	114	150	0
18	✓	✓	✓	139	129	177	205	247	259	241	247	211	213	201	181	162	125	123	114	104	106	126	120	114	98	114	143	162	0
19	✓	✓	✓	139	154	176	162	182	219	230	246	254	239	207	187	171	171	174	162	149	132	143	[142	72	93]	137	148	170	0
20	✓	✓		173	210	200	240	252	259	248	266	271	241	203	182 ≶	154	175 ≶	195	204 ≶	184	170	142	162 ≶	144	171	197	155	200	1
21	✓	✓	✓	172	174	170	223	241	248	269	329	326	244	201	178	160	138	149	137	145	141	153	154	153	154	145	158	190	0
22	✓	✓	✓	164	160	238	257	257	249	234	243	237	192	198	201	178	170	174	145	145	108	[94	73	100]	108	114	119	173	1
23				—	—	—	—	—	—	—	—	—	—	193	[114	102	158]	175	166	166	161	[152	112	80	80	89	94]		0
24				[82	79	91	141]	224	234	250	246	238	211	207	219	208	171	143	142	155 ≶	115	127	64	109	124	52	83 ≶		2
25				≷ 70	94	74	107 ≶	106	126	143	199	210	181	154	153	155	146	138	143 ≶	123	91	75 ≶	101	121	126	[84	75]		0
26				[82	100	108	102	83	114	125]	213	213	181	178	178	158	149	126	146	153	151	129	134	133	114	88	85		0
27	✓			125	125	126	114	127	105	98	128	155	169	168	171	161	164	170	162	127	[103	82	89	66	55	56	45]	120	0
28				—	—	—	—	—	—	—	—	—	—	137	137	131	125	116	83	104	[74	32	46	54	50]	103	106		0
29				94	95	104	124 ≶	103 ≶	113	82 ≶	80	71 ≶	113	115	112	[96	89]	112	97	95	[84	86	74	60	56	55	56]		1
30				[53	49	40	40	32	37	44	41	118]	199	178	156	140	124	121	106	93	94	[67	68	72	63	38	32]		0
31	✓	✓		[35	32	29	36	51	64	89	195]	248	238	197	136	118	126	106	102	97	[80	74	40	42	37	26	33]	93	0
MEANS * 21 DAYS				108	113	123	139	155	167	171	189	189	177	166	155	143	136	133	113	106	106	98	94	82	92	100	104	132	
MEANS † 15 DAYS				112	120	136	157	176	188	191	210	210	188	173	160	145	139	136	120	112	107	99	93	80	84	97	106	139	
MEANS ‡ 6 DAYS				134	140	161	185	204	213	215	226	219	186	175	169	158	146	143	114	110	111	112	104	91	93	110	124	152	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 305

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈313	297	295	235	146	96⌋	62	62	67	64	68	71	77	80	75	86	93	101	113	116	⌈157	165	163⌋	118	130	0
2				108	102	99	89	82	63	48	61	66	64	68	69	66	64	66	67	98	Z+	158	95	Z	Z	72	77		1
3				94	94	101	108	94	92	81	73	79	73	73	81	⌈105	105⌋	88	Z	Z	⌈146	146	118⌋	96	102	72	121		1
4	✓			⌈156	157	173	164	153	133⌋	106	88	62	65	77	70	71	74	84	87	83	⌈121	193	232	226	224	231	281⌋	138	0
5	✓	✓		⌈322	367	390	430	414	346	282	179	142	118⌋	91	85	85	83	89	92	84	92	⌈196	207	237	259	235	160⌋	208	0
6	✓	✓	✓	126	137	106	96	85	87	82	71	66	66	62	68	68	72	73	73	81	88	89	95	127	119	116	116	90	0
7	✓	✓	✓	98	90	94	83	80	82	76	75	66	56	59	66	72	74	79	83	80	93	99	125	139	144	118	117	90	0
8	✓	✓	✓	114	110	93	85	72	57	64	68	71	⌈71	71	61	60	57	74	76	85	129	108	71	92⌋	110	109	117	84	0
9	✓	✓	✓	89	72	69	66	65	63	68	42	40	50	67	67	53	61	73	61	57	67	81	80	84	93	72	82	68	0
10	✓	✓	✓	80	78	61	61	68	53	53	54	59	64	70	80	76	73	68	68	81	69	⌈105	130	116⌋	108	122	115	80	0
11	✓	✓	✓	96	96	82	75	65	66	51	53	51	59	63	61	66	67	57	56	56	⌈72	99	107	101	94	192	134⌋	80	0
12				81	68	68	50	85	67	61	64	69	81	80	81	78	69	N 57	Z	Z	Z	72	79	60	55	91	87		1
13	✓	✓	✓	82	94	75	65	55	62	67	61	64	69	73	89	80	82	83	67	73	⌈103	124	155	140	180	124	93⌋	90	0
14	✓			97	55	95	73	74	64	52	52	58	102	87	91	87	87	88	89	85	89	90	92	95	97	103	107	84	0
15				104	81	79	Z	Z	Z	Z	Z	Z	Z	101	104	N 84	108	106	117	117	128	139	151	164	155	172	165		2
16	✓	✓	✓	165	164	148	127	120	139	104	99	111	104	111	110	121	127	128	129	134	122	112	126	137	141	132	129	127	0
17	✓	✓		127	122	115	109	93	66	58	59	69	72	80	82	88	84	84	91	103	100	97	104	115	127	132	181	98	0
18				Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	82	59	Z	151	105	94	81	89	77	88	96	109		2
19	✓			119	127	122	94	106	99	90	93	86	89	84	90	100	108	99	90	87	66	49	61	68	79	76	77	90	0
20	✓			71	55	59	55	62	60	61	52	60	101	113	115	109	115	133	123	130	N 85	128	141	97	107	88	71	91	1
21				81	93	92	83	71	79	57	70	N 51	Z	118	92	N 61	102	102	N 89	90	N 77	116	124	118	98	90	102		1
22	✓	✓		92	132	115	114	98	83	85	96	113	114	107	98	N 83	114	113	118	113	110	N 99	94	89	82	77	133	103	1
23	✓	✓	✓	127	141	123	107	78	97	94	96	108	99	90	93	84	91	89	113	122	112	103	91	123	119	133	127	107	0
24	✓			149	154	145	155	137	103	77	66	54	57	68	72	72	85	87	85	94	110	87	89	86	99	114	122	99	0
25	✓			132	146	176	193	181	160	133	113	96	89	106	107	104	91	85	90	89	89	91	136	137	109	123	132	121	0
26				127	117	⌈129	153	138⌋	113	103	95	72	64	76	61	75	88	—	—	—	—	—	—	—	—	103	87		0
27	✓			78	74	82	81	75	85	81	73	66	63	69	66	68	68	64	71	64	56	38	39	72	90	108	113	73	0
28	✓	✓		123	113	104	122	105	99	81	85	77	67	64	62	63	78	72	77	76	62	71	85	91	105	⌈155	198⌋	93	0
29				⌈219	225	190	194	155	127⌋	126	100	73	58	55	52	54	60	54	59	61	71	63	Z+	Z+	Z+	238	106		1
30				Z	Z	75	128	90	78	73	71	59	49	42	45	38	44	60	45	51	47	58	59	66	60	55	56		1
31																													
MEANS * 21 DAYS				131	132	130	123	111	100	87	78	76	78	80	81	80	84	86	87	89	92	103	113	120	126	130	130	102	
MEANS † 14 DAYS				140	144	134	127	110	100	88	79	79	77	77	78	77	82	83	85	88	94	107	113	125	132	134	130	103	
MEANS ‡ 9 DAYS				109	109	95	85	76	78	73	69	71	71	74	77	76	78	80	81	85	95	102	109	118	123	124	114	90	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⌇ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 306

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in.	hr		m/h		m/h		m/h		m/h					
1	745.6	19.5	48	27.2	10.2		10.4	SSE	3	ENE	10	E	..	ESE	..	CiSt	4- 6	CiSt	3- 1	
2	742.1	23.0	38	31.2	12.0		7.9	ESE	..	NE	..	NE	4	E	2		0	ASt; ACu; StCu; CuNb	1- 8	Few drops rain in pm; rain again at 20h5
3	739.8	23.5	43	30.3	16.8	0.01	9.1	NNE	7	NNE	7	SE	1	S	4	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
4	740.7	22.5	52	31.4	12.0		9.9	..	0	E	1	ESE	2	S	7	CiCu	1- 3	CiCu; ACu	1- 3	
5	740.4	23.0	46	32.4	15.1		10.1	S	5	ESE	7	SE	6	SSE	5	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
6	741.8	22.0	49	27.0	15.8		10.0	ESE	5	E	11	ESE	11	ESE	7	CiSt; ACu	1- 6	CiSt; ACu	1- 3	
7	742.1	22.5	48	31.4	16.3		9.9	ESE	6	E	7	E	7	SE	3		0	ACu	0- 1	
8	744.0	25.5	31	30.2	18.2		5.5	ENE	8	ENE	11	NE	12	E	2	Ci; CiSt; ASt	5- 8	CiSt; ASt; ACu	7-10	Burning over grounds at 9h
9	746.4	22.5	35	28.1	18.6		0.8	NNE	2	ENE	9	ENE	..	E	..	ASt; StCu; Nb	10	ASt; StCu; Nb	10	
10	746.1	24.1	30	31.0	14.8		6.4	ENE	..	NNE	..	ENE	3	SW	1	Ci; CiCu	5- 8	Ci; CiCu	7- 8	
11	745.5	23.6	30	30.1	13.5		5.6	SE	1	NNE	1	NNW	4	SE	1	CiSt; CiCu; ASt	8-10	CiSt; ASt; Cu	10	
12	745.2	24.5	44	29.4	17.4	T	4.6	..	0	N	1	NW	4	..	0	ACu; ASt	3- 6	ACu; Cu; Nb	7-10	Rain 15h-18h
13	743.4	22.5	54	30.7	15.5	0.11	8.2	WNW	1	NNE	2	W	2	SSE	1	ASt; CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	
14	740.9	21.5	79	28.0	11.8		6.9	WSW	1	NW	1	WSW	12	W	3	CiSt; ASt; Cu	4- 8	CiSt; ASt; Cu	7- 8	Overcast at night and raining
15	741.6	14.0	95	18.6	13.9	0.34	4.2	W	6	SSE	6	S	11	..	..	StCu; CuNb	7-10	StCu; CuNb	4- 6	Showers during day; clearing in evening
16	745.7	13.0	56	17.9	7.0	0.01	10.2	..	..	E	9	ESE	6	SE	3	ACu; CiCu	4- 8	CiCu; ACu	7- 8	
17	741.9	16.5	44	22.1	6.4		7.3	SE	2	NE	5	ESE	3	SE	5	CiSt; CiCu	4- 8	StCu; CuNb; Nb	7-10	Thundershowers at night after 22h
18	735.3	12.5	89	18.8	11.1	0.17	2.7	SSE	3	SSE	4	S	3	SSW	1	ACu; StCu; CuNb	10	ACu; StCu; CuNb	10- 4	Rain in early hours and in am
19	739.5	14.7	79	20.1	8.1	0.03	4.5	S	1	E	1	ENE	1	..	0	CiSt; CiCu	7-10	CiSt; CiCu	7- 8	
20	739.0	17.2	77	23.5	10.0	T	6.6	NW	1	NW	3	W	16	..	0	ACu; Cu; Nb	2- 8	ACu; Cu; Nb	7- 8	Dew early; few drops rain at 19h; dew at 21h
21	740.3	14.5	96	20.7	12.5	0.14	4.5	NW	1	WNW	3	WSW	11	..	0	CuNb; Nb	10- 7	CuNb; StCu	6- 4	Rain in am; dew at 21h
22	740.2	17.5	74	20.8	11.5	0.06	5.4	NW	1	WNW	4	W	8	W	1	ACu; Cu; Nb	7- 8	ACu; Cu; Nb	7- 8	Dew early, possibly mist; showers 12h and 18h to 19h
23	742.5	16.3	85	20.1	11.5	0.05	4.6	WSW	5	SSE	3	SE	2	S	2	Cu; FrCu; CuNb	10- 4	Cu; FrCu; CuNb	4- 6	Dew early; rain at midday
24	744.4	13.3	71	21.6	7.3	0.01	4.9	SSE	1	ESE	1	ENE	1	SSE	4	CiSt; ACu; ASt	8- 4	CiSt; ACu; ASt	3- 1	
25	742.0	16.3	56	24.3	9.0		9.3	S	2	SE	6	ESE	8	SSE	3	CiSt; ACu; Cu	1- 6	CiSt; ACu; Cu	4- 6	Dew early
26	741.2	16.0	76	21.2	12.9		4.6	ESE	6	ESE	8	E	9	..	0	ASt; FrCu; Nb	9- 7	Cu; FrCu; Nb	6- 1	Clear in evening; dew at 21h
27	741.0	16.5	69	23.3	9.2		9.6	SE	1	ESE	3	ESE	4	S	1	CiSt	7- 8	CiSt	6- 1	Dew early
28	741.3	16.5	70	23.3	9.8		4.3	..	0	SE	1	SE	4	SSE	3	CiSt; ASt	10	CiSt; ASt	10	Dew early
29	742.1	18.0	61	24.7	13.0		1.7	SE	1	ESE	4	NE	5	NE	7	ASt; StCu; CuNb	10	ASt; StCu; CuNb	10	Thunder and lightning in SW; rain at night
30	743.3	15.8	80	18.6	14.1	0.14	2.3	NE	5	ENE	10	ENE	7	E	3	Cu; Nb	10	Cu; Nb	10	Light showers during day
31																				
SUM						1.07														
MEAN	742.2	19.0	60	25.3	12.5		6.4		2.8		5.0		6.0		2.6					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 307

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[54	54	59	82	129	191]	259	262	267	251	226	210	194	203	175	154	141	134	119	123	[102	109	113]	143	156	0
2	✓			171	188	193	203	207	236	262	256	223	212	186	172	149	152	147	152	} 130	129	141	119	95	144 }	188	203	177	1
3	✓			200	192	198	198	207	170	189	211	195	193	192	193	[147	108]	161	153	} 28 }	[108	96	119]	139	137	149	120	158	1
4				114	118	118	120	119	132	150	206	273	256	235	220	215	—	—	—	—	[70	61	47	53	61	67	71]		0
5	✓	✓		[55	44	44	50	53	65	76	110	130	148]	193	194	193	210	199	196	192	169	[70	68	71	73	82	122]	117	0
6	✓	✓	✓	170	181	210	235	260	256	259	276	279	269	262	222	196	196	190	196	180	162	169	172	150	175	178	181	209	0
7	✓	✓	✓	200	216	222	241	236	238	230	230	257	282	285	206	202	212	200	180	170	152	164	133	118	130	163	160	201	0
8	✓	✓	✓	180	196	226	247	256	251	253	262	218	[170	157	157	97	128	139	146	146	91	140	178	175]	162	170	152	179	0
9	✓	✓	✓	166	227	239	259	266	272	263	245	244	239	211	190	186	206	210	211	205	198	206	208	208	190	230	211	220	0
10	✓	✓	✓	242	244	293	300	287	288	276	285	263	239	214	194	190	181	186	184	187	181	[140	142	156]	160	163	180	216	0
11	✓	✓	✓	208	212	241	254	276	290	315	333	337	288	253	239	223	223	214	211	196	[142	133	132	160	148	97	127]	219	0
12	✓			152	166	174	196	196	222	232	263	275	217	211	212	210	} 178	192	61	154	118 }	187	186	211	242	217	230	196	1
13	✓	✓	✓	248	241	266	270	300	306	307	330	334	301	266	239	227	222	220	217	217	[166	104	82	94	108	139	156]	223	0
14				174	193	202	204	208	222	288	352	318	199	206	188	178	174	170	170	166	166	168	172	175	172	176	170		0
15				—	—	—	—	—	—	—	—	—	} 118 }	134	136	133	116	116	126	138	133	146	146	148	154	151	151		2
16	✓	✓	✓	144	144	144	152	158	148	154	164	156	158	150	127	106	92	86	76	78	86	92	103	102	103	108	110	123	0
17	✓	✓		116	124	130	132	150	186	211	217	188	166	158	140	134	127	124	118	92	98	110	112	108	100	108	} 118 }	136	0
18				} 115	109	136	82	127	18	82	102	130	84	67	97 }	188	182	} 148	130 }	116	142	145	139	—	—	—	—		2
19				139	140	136	150	144	136	136	162	166	157	158	156	136	130	133	127	132	145	158	187	174	172	—	—		0
20				—	—	—	—	—	—	—	—	—	186	144	130	122	124	124	128	126	133	145	142	154	166	184	176		1
21	✓			202	199	214	239	254	266	} 272	264	260	138 }	156	150	145	150	148	151	154	151	152	156	162	186	210	198	191	1
22	✓	✓		187	184	184	210	242	239	241	242	204	181	170	169	152	(160)	160	162	166	170	174	184	200	224	245	196	194	1
23	✓	✓	✓	184	196	175	186	180	174	187	204	192	192	188	166	175	176	178	163	150	136	140	148	136	138	136	121	168	0
24				—	—	—	—	—	—	—	—	—	300	259	230	205	194	184	176	154	136	151	170	178	176	166	157		0
25				156	—	—	[110]	—	—	154	164	182	188	154	148	138	150	164	150	140	136	151	112	118	146	150	151		0
26				166	181	[180	158]	—	—	—	—	—	270	242	239	238	229	227	187	180	192	212	200	206	[150	169	192]		0
27				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	199	182	164		0
28	✓	✓		152	157	162	151	152	152	150	170	192	211	236	224	192	176	166	166	158	169	169	168	162	146	[120	104]	167	0
29	✓			[102	100	109	115	128	151]	169	211	264	328	327	331	309	301	300	281	272	233	229	227	239	272	254	} 238 }	229	1
30	✓			} 127	205 }	259	205	227	229	223	224	216	223	233	235	236	238	247	260	275	285	250	216	259	256	263	273	236	1
31																													
MEANS * 20 DAYS				163	174	187	196	208	216	226	238	235	220	214	198	183	182	182	172	165	154	149	149	152	160	167	167	186	
MEANS † 14 DAYS				165	173	185	198	210	218	227	238	233	221	212	191	176	179	175	170	163	147	138	140	139	140	147	149	181	
MEANS ‡ 9 DAYS				194	206	224	238	247	247	249	259	253	238	221	193	178	182	180	176	170	146	143	144	144	146	154	155	196	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION } {=DISTURBED BY BAD WEATHER

TABLE 308

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[32	37	43	63	104	169]	252	269	275	274	245	229	212	220	(265)	157	149	136	111	103	[86	89	82]	112	155	0
2	✓			151	160	177	181	205	229	271	271	247	242	199	181	161	165	160	157	129	102	114	114	85	160	174	190	176	1
3	✓			181	176	174	168	175	147	165	183	189	195	186	186	[139	90]	153	163	160	[90	79	100]	123	116	118	94	148	1
4				—	—	—	—	—	—	—	—	268	249	221	211	219	197	170	154	142	[59	49	39	41	46	50	48]		0
5	✓	✓		[39	30	30	32	36	42	54	77	107	124]	167	164	157	172	163	163	158	138	[58	55	54	45	46	87]	92	0
6	✓	✓	✓	137	140	172	203	224	213	213	249	265	256	255	213	189	187	182	186	156	145	151	151	122	145	151	154	186	0
7	✓	✓	✓	179	195	190	203	217	206	217	221	254	282	288	201	197	215	202	171	160	131	127	92	82	92	127	114	182	0
8	✓	✓	✓	134	152	200	212	186	215	228	245	213	[170	164	162	94	114	148	140	127	74	110	150	143]	131	143	126	158	0
9	✓	✓	✓	146	203	201	217	236	237	234	237	236	238	203	180	181	200	202	209	204	188	177	171	159	130	188	185	198	0
10	✓	✓	✓	206	206	251	255	228	249	250	248	246	230	207	186	178	173	171	172	154	146	[114	104	117]	128	128	133	187	0
11	✓	✓	✓	154	181	199	220	250	265	296	306	305	280	253	245	228	228	213	210	199	[146	112	93	102	104	61	79]	197	0
12	✓			121	140	142	174	168	195	213	211	229	196	193	193	189	157	176	185	159	176	158	140	149	175	153	146	172	1
13	✓	✓	✓	164	188	221	222	250	256	257	255	276	264	235	213	206	190	187	186	185	[130	79	58	66	69	102	113]	182	0
14				108	161	164	182	183	—	—	—	—	—	181	173	169	167	155	153	144	136	134	139	144	140	134	131		0
15				140	149	146	149	131	147	116	75	108	114	111	114	116	98	99	(103)	108	109	99	99	78	87	87	82		2
16	✓	✓	✓	82	82	94	112	130	113	136	154	154	158	145	125	105	92	83	75	76	83	80	83	84	86	100	105	106	0
17	✓	✓		114	122	125	130	154	187	227	247	229	189	199	164	148	146	140	131	94	96	114	117	112	102	103	105	146	0
18				—	—	164	110	134	221	113	140	164	187	182	168	206	201	182	140	121	141	148	138	167	168	156	146		2
19				134	141	142	149	142	145	140	168	177	170	168	158	140	121	113	117	115	131	142	159	151	159	172	180		0
20				199	260	264	277	296	304	319	334	307	213	170	153	144	143	140	138	125	129	123	106	76	90	126	141		1
21	✓			160	158	167	194	225	245	252	241	219	184	146	152	151	140	141	144	134	121	112	[89	90	122	161]	160	163	1
22	✓	✓		138	126	119	151	184	195	208	206	193	177	164	160	148	163	149	146	141	140	116	132	150	170	195	145	159	1
23	✓	✓	✓	131	142	138	135	143	119	137	154	147	157	157	142	152	159	150	128	109	101	103	108	95	101	91	89	129	0
24				88	67	96	95	105	140	169	211	269	273	235	204	182	164	159	152	126	104	124	148	153	152	140	124		0
25				120	[108	86	84	103	121]	138	158	176	186	159	142	134	153	162	141	139	122	139	99	100	121	121	119		0
26				128	150	[160	140	158]	182	180	191	247	266	240	231	228	221	213	178	163	168	174	161	170	[119	121	154]		0
27				161	174	171	169	188	183	195	220	220	287	247	249	226	229	214	185	186	195	213	213	177	143	128	119		0
28	✓	✓		108	118	129	112	131	134	138	141	172	191	210	205	180	161	156	151	141	147	142	140	131	119	[97	72]	143	0
29	✓			[63	65	66	83	91	125]	141	182	249	326	329	326	308	298	291	(271)	239	206	200	177	108	179	177	188	195	1
30	✓			220	239	219	163	174	182	179	193	194	202	213	212	212	215	222	250	262	269	221	200	228	224	235	251	216	1
31																													
MEANS * 20 DAYS				133	143	153	162	176	186	203	214	220	217	208	192	177	174	178	170	157	138	124	119	114	124	132	132	164	
MEANS † 14 DAYS				126	137	151	162	177	186	203	215	219	214	207	185	170	173	172	159	147	129	114	111	107	108	115	116	158	
MEANS ‡ 9 DAYS				148	165	185	198	207	208	219	230	233	226	212	185	170	173	171	164	152	127	117	112	108	110	121	122	169	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 309

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[47	46	29	44]	46	55	41	46	46	50	27	45	42	54	52	50	44	48	50	54	70	50	70	87	50	0
2	✓	✓	✓	88	[77	90	69	102	91	102	96	73]	69	69	74	73	74	80	86	77	72	69	64	64	83	112	114	82	0
3				79	69	55	53	51	49	54	53	47	50	—	—	—	—	—	—	—	[101	138	94]	69	52	54	67		0
4	✓	✓	✓	60	73	82	66	59	53	40	54	54	51	59	65	68	73	79	78	77	84	78	73	82	84	87	82	69	0
5	✓	✓		95	118}	120	78	64	68	64}	77	87	101	96	{N 78	N 81	N 73}	96	87	86	{N 64}	106	100	81	76	78	86	86	1
6	✓	✓	✓	82	82	88	86	78	77	74	49	83	87	93	83	92	104	109	(105)	104	86	60	74	90	[113	128	151]	91	0
7	✓			[142	123	128	142	116	112]	64	50	54	77	69	68	78	77	86	96	95	81	55	50	40	50	40	41	81	0
8				46	50	51	48	44	54	55	{N 42	Z	Z	Z	Z}	162	99	97	99	94	101	102	103	107	105	114	106		1
9	✓	✓	✓	106	110	110	96	86	91	83	82	93	96	91	92	97	101	101	105	95	96	83	73	66	63	49	54	88	0
10	✓	✓	✓	68	74	73	78	68	[80	130	105]	78	83	81	76	79	85	92	82	85	[68	49	73	92	110]	115	97	84	0
11				69	84	82	69	79	74	70	69	59	55	59	68	54	54	55	54	64	—	—	—	—	—	—	—		0
12				—	—	—	—	—	—	—	—	40	50	49	50	54	46	46	50	50	36	32	37	34	42	39	37		0
13	✓	✓		37	38	37	32	41	38	44	41	43	55	55	59	67	77	78	63	60}	46	N 41	45	43}	53	46	44	49	1
14	✓			43	41	41	36	32	29	31	32	41	44	55	55	58	68	66	69	78	62	54	54	65	73	69	[24]	51	0
15	✓			[22	27][	91	105	172	119	70]	70}	47	60	N 58	38	50}	69	66	74	69	61	55	60	64	58	59	74	68	1
16	✓	✓	✓	69	83	82	74	[76	102	71	73	53]	42	41	47	50	50	46	52	58	54	51	50	53	54	67	73	61	0
17	✓			88	87	87	64	79	59	46	46	47	41	45	45	46	49	55	55	47	37	46	38	45	48	50	37	54	0
18	✓	✓		40	41	37	35	39	35	32	33	41	37	45	45	N 27	51	50	50	34	{N 0	−46}	45	38	38	40	36	34	1
19	✓	✓		32	32	32	29	27	28	27	28	{N 32}	46	37	41	40	41	41	49	45	46	58	[76	128	81	70]	60	47	1
20				69	64	58	58	[51	85	68	52	53	47]	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
21				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	71	78	69	64	59}	50}		0
22	✓		}	46	68	66	N 35	42	40	40	33	55	N 30	40	−18	N 25	N 34}	38	50	58	42	32	37	46	43	42	41	40	1
23	✓	✓		41	40	42	45	43	40	41	37	33	{N 20	N 13}	41	48	68	74	71	74	55	49	50	42	49	51	48	46	1
24	✓			44	41	46	47	47	45	41	40	41	40	47	64	69	68	73	75	82	77	78	52	55	66	[84	110]	60	0
25	✓			[135	144	149	137	228	117	58	77	93	65]	50	53	53	57	59	61	56	56	60	69	66	56	72	68	85	0
26	✓	✓	✓	82	73	73	68	108	109	88	68	66	51	43	44	44	50	59	64	55	48	[100	132	99	91	96	97]	75	0
27	✓	✓	✓	[94	96	110	114	106	108	102	97]	79	68	73	64	65	64	58	55	51	57	58	69	57	53	63	49	75	0
28				53	[68	97	183	79	60	95	148]	128	104	82	86	83	72	86	—	—	78	74	64	66	79	90	117		0
29	✓	✓	✓	96	101	116	136	114	85	73	64	73	60	(64	77)	86	87	90	81	82	68	52	48	50	55	47	53	77	0
30	✓	✓	✓	52	55	68	60	54	63	62	68	65	68	74	82	93	100	95	102	97	98	87	94	91	83	87	90	79	0
31	✓	✓	✓	91	97	101	95	95	91	91	80	77	81	74}	60	69	101	87	85}	72	73	77	69	73	90	86	95	84	0
MEANS * 24 DAYS				71	74	79	74	80	72	63	60	61	59	58	57	62	70	72	73	70	62	58	65	67	68	71	71	67	
MEANS † 16 DAYS				71	74	79	73	72	72	70	66	64	63	63	64	67	75	77	76	72	63	61	71	72	74	76	77	70	
MEANS ‡ 11 DAYS				81	84	90	86	86	86	83	76	72	69	69	69	74	81	81	81	78	73	69	74	74	80	85	87	79	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER }=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 310

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.8	15.8	87	19.2	13.7	0.02	0.7	E	1	..	0	SE	2	S	2	Cu	10- 4	Cu	3- 1	
2	741.2	16.5	79	23.4	7.8		9.2	..	0	E	1	SSE	1	SSE	1	ACu	1- 3	ACu	1- 3	Dew early; lightning in N at 23h
3	739.1	20.5	66	28.6	11.7		8.1	SSE	1	ENE	2	NW	2	SW	1	ACu; StCu	1- 3	ACu; StCu	1- 3	Probably dew early
4	739.5	15.2	93	23.6	10.8	T	3.4	..	0	NW	1	NW	9	WNW	4	CiSt; ACu; ASt	10- 7	CiSt; ACu; ASt	6- 1	Dew early
5	738.8	17.2	86	20.6	13.0	0.06	4.0	SW	4	W	3	SW	11	..	0	ASt; Cu; Nb	9-10	ASt; Cu; Nb	10	Rain in early hours and through day; clearing in evening
6	742.9	16.5	74	20.7	10.7	0.11	6.8	SW	1	SW	1	SW	2	..	0	Cu; FrCu; ASt	9- 4	Cu; FrCu; ASt	4- 6	Dew early
7	742.5	15.8	60	22.8	6.9	T	5.8	..	0	NNE	3	N	4	..	0	CiSt; CiCu; ASt	1- 6	CiSt; ACu; ASt	7- 8	Dew early
8	733.0	18.3	94	19.6	15.5	0.18	2.1	NNW	2	NW	10	SSW	13	S	3	NB	10	StCu; CuNb; Nb	10- 4	Steady rain in am
9	740.2	15.8	62	19.7	10.5	0.11	5.1	..	0	..	1	SSW	5	SSW	1	Cu	1- 3	Cu	4- 8	
10	747.3	14.8	74	18.2	9.3	0.03	5.7	SSW	2	ESE	1	SSE	3	SSE	3	Cu	7- 8	Cu	6- 4	Heavy mist early; clear in evening
11	750.6	13.6	65	19.3	5.0		9.3	..	0	N	1	ESE	1	SSE	1		0		0	Dew early
12	750.5	15.4	68	21.4	7.9		9.2	SW	1	E	5	ENE	4	ESE	1		0		0	Dew early
13	748.7	17.0	54	24.7	6.2		9.3	NE	1	N	2	N	2	N	1		0		0	Dew early
14	745.6	16.7	53	26.7	7.2		9.2	NNW	1	NNW	4	WNW	10	WSW	6		0		0	
15	746.4	16.3	94	21.2	8.2	T	1.1	NNW	1	NNW	2	ESE	2	SSE	1	Cu; Nb	10	Cu; Nb	9- 4	Heavy mist early; rain in am
16	746.6	16.5	66	26.9	8.8	0.03	9.3	SSE	1	NNW	2	WNW	4	SSE	1		0		0	Heavy mist early
17	745.4	14.5	77	27.2	7.0	T	3.7	..	0	..	0	NNW	3	..	0	CiSt; ASt; ACu	10- 7	CiSt; ASt; ACu	6- 4	Dew early
18	746.7	18.0	29	26.2	10.0		1.0	..	0	NNW	2	NW	3	SSE	1	ASt; Cu; Nb	9-10	ASt; Cu	10	
19	746.4	20.2	30	26.8	14.1		4.8	SE	2	NE	2	WNW	1	N	1	ACu	7- 8	ACu	7- 8	
20	747.5	17.0	70	25.7	8.8	T	4.7	S	2	SE	1	ENE	1	SSE	2	ACu; ASt	1- 3	ACu; ASt	4- 6	Heavy mist until 8h; laying concrete under collector all day
21	744.9	16.0	86	26.2	9.4	T	5.9	S	1	ESE	1	NNW	1	S	2	ACu	1- 3	ACu	1- 3	Heavy mist until 8h; concrete surface completed at 14h
22	744.2	15.5	85	24.0	12.1	T	1.0	SSW	2	SSW	1	ENE	2	..	0	Cu; StCu; Nb	10- 7	StCu; ACu	6- 4	Dew early; few drops rain
23	745.0	13.5	75	24.1	7.8	T	4.2	..	0	NNW	1	W	..	..	..	StCu; Nb	10- 7	ACu; Cu	6- 4	Few drops rain in am; clear in evening
24	745.3	16.3	67	25.3	6.3		9.0	..	..	NW	..	WSW	2	..	0		0		0	Dew early
25	745.6	13.0	99	27.3	8.7		7.9	..	0	..	0	W	1	N	1		0		0	Fog until 9h5
26	744.0	13.8	93	28.3	7.5		3.7	S	2	SSE	1	W	7	SSE	3	CiCu; CiSt	7-10	CiCu; CiSt	7-10	Dew, possibly fog, early
27	742.6	15.4	87	22.6	9.7		1.5	S	3	SE	1	SSW	1	..	0	ASt; ACu	7-10	ASt; ACu	7-10	Dew early
28	743.2	15.0	82	16.8	13.5	0.02	3.7	WNW	1	SSW	10	SSW	11	SSW	2	ASt; ACu; Cu	9- 7	ASt; ACu; Cu	6- 4	Mist or light rain early
29	747.8	11.6	72	17.2	7.1		6.2	SSE	2	E	9	E	10	E	1	Cu; StCu	10- 7	Cu; StCu	6- 4	Dew early
30	747.6	11.4	67	19.6	6.7		4.3	E	3	NE	14	NE	10	NE	4	CiSt; CiCu	10- 7	CiSt; CiCu	7- 8	Dew early; clearing rapidly in evening
31	744.0	13.7	49	18.7	11.2		0.0	NNE	5	NNE	11	NNE	8	N	6	ASt; ACu; CuNb	10	ACu; Cu; CuNb	10	Dew early; a few drops of rain during day
SUM						0.56														
MEAN	744.4	15.7	72	23.0	9.0		5.2		1.3		3.1		4.5		1.6					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 311

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈295	301	359	330⌋	276	279	299	302	299	284	271	272	261	252	254	250	242	259	252	248	—	—	—	187		0
2	✓	✓	✓	173	⌈171	139	186	136	142	146	186	200⌋	248	248	240	242	244	241	240	241	241	228	221	(231	187	156	160)	202	0
3	✓			197	241	284	298	302	328	313	326	333	313	289	285	275	268	244	241	240	⌈166	103	177⌋	208	205	224	197	252	0
4	✓	✓	✓	221	228	235	286	318	347	376	342	330	322	252	214	200	191	186	181	171	170	177	184	171	176	187	207	236	0
5	✓	✓		191	163	≷143	147	156	171	186≶	210	213	187	176	169	≷157	156≶	170	171	181	(186	190	194	201)	211	217	230	182	1
6	✓	✓	✓	231	221	214	218	224	227	218	230	231	197	197	188	184	(187)	176	184	186	187	211	184	171	⌈169	133	112⌋	195	0
7				⌈127	140	130	129	146	146⌋	228	329	335	269	234	214	211	193	190	196	188	196	213	238	251	252	285	289		0
8	✓			316	312	295	294	285	269	241	201	≷102	140	127	125≶	144	157	171	181	181	171	173	167	167	173	181	184	198	1
9	✓	✓	✓	188	198	213	237	242	242	247	255	234	197	180	183	173	170	170	176	173	173	184	196	214	224	245	230	206	0
10	✓	✓	✓	215	217	228	213	184	⌈170	115	178⌋	215	191	186	173	161	169	167	171	171	184	176	171	156	157	157	170	179	0
11	✓			187	173	170	176	173	171	173	214	251	255	228	198	196	205	214	214	198	190	176	173	187	190	149	140	192	0
12	✓			132	127	136	153	169	184	203	257	(281	272)	251	220	215	213	228	244	227	204	238	257	257	255	269	285	220	0
13	✓	✓		312	311	312	329	323	326	315	332	325	257	241	227	201	(193)	187	191	196	≷186	198	214	186≶	200	228	271	253	1
14				302	329	370	—	—	—	—	—	—	299	230	203	200	184	183	183	154	164	187	204	200	200	200	217		0
15				230	257	⌈180	143	113	142	170⌋	214	—	—	—	200	184	198	201	187	186	184	194	225	227	247	275	242		1
16	✓	✓	✓	217	187	203	211	⌈205	159	186	184	312⌋	359	342	315	275	250	251	240	217	224	227	238	224	205	171	178	232	0
17				171	161	171	213	208	242	255	285	328	338	353	345	332	312	257	254	244	237	258	291	285	285	299	356		0
18	✓	✓		343	356	383	393	397	384	396	413	397	359	281	295	329	276	259	230	230	≷208	241≶	257	313	340	346	342	324	1
19	✓	✓		326	325	339	376	426	441	399	≷386	≷359≶	309	312	315	295	312	303	295	285	230	200	⌈174	72	125	156⌋	184	289	1
20				170	159	184	198	—	—	—	—	198	190	200	214	218	(224)	⌈207	193⌋	228	217	⌈190	166⌋	186	181	174	153		0
21				144	149	⌈117	129	143	115	146	129⌋	213	171	171	181	190	204	214	215	227	201	157	152	170	171	170	143		0
22				—	—	—	—	—	—	—	—	186	204	282	200	200	227	227	227	228	227	242	255	252	267	278	271		1
23	✓	✓		269	286	299	305	322	340	342	360	359	370	343	379	357	252	213	184	191	198	214	245	259	268	271	285	288	1
24				—	—	—	—	—	—	—	—	—	338	295	—	—	—	—	—	—	—	—	—	—	—	213	⌈184	140⌋		0
25				⌈116	116	102	115	85	143	188	171	157	251⌋	299	—	—	—	—	—	—	—	—	—	—	—	231	214	211		0
26	✓	✓	✓	200	213	201	⌈198	119	125	159	203⌋	230	268	328	330	326	328	257	244	242	247	⌈126	105	140	160	166	170⌋	212	0
27	✓	✓	✓	⌈164	156	157	157	143	143	159	170⌋	188	201	215	228	234	242	237	241	242	247	252	252	269	271	267	282	213	0
28	✓			265	⌈203	166	130	184	210	203	184⌋	186	183	171	171	174	173	169	167	169	(183	188	193	194)	190	160	146	182	0
29	✓	✓	✓	152	144	139	130	140	173	188	198	191	193	187	183	147	127	143	156	167	(176	188	200	223)	230	255	261	179	0
30	✓	✓	✓	269	252	257	284	299	294	285	269	242	241	215	181	163	157	150	159	171	186	187	188	201	213	213	213	220	0
31	✓	✓	✓	211	213	203	214	214	214	204	198	194	187	186	171	164	157	169	184	180	193	187	183	187	191	213	204	193	0
MEANS * 21 DAYS				228	224	225	235	236	241	241	252	256	250	236	228	220	211	205	204	203	198	194	199	201	207	208	212	221	
MEANS † 16 DAYS				230	228	229	243	240	244	245	257	264	255	243	237	226	213	205	203	203	202	199	200	201	208	211	219	226	
MEANS ‡ 11 DAYS				204	200	199	212	202	203	208	219	233	237	231	219	206	202	195	198	196	203	195	193	199	198	197	199	206	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 312

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈278	283	346	302⌋	239	233	231	228	255	254	256	242	237	222	221	219	206	213	216	215	195	230	186	161		0
2	✓	✓	✓	150	⌈149	114	177	119	114	120	128	159⌋	221	222	213	215	213	212	201	199	196	194	180	204	160	114	124	171	0
3	✓			162	212	257	280	280	296	296	304	290	280	282	256	257	248	229	222	216	⌈140	75	138⌋	167	167	188	182	226	0
4	✓	✓	✓	204	188	167	213	229	249	264	254	264	273	222	195	188	185	178	169	159	147	149	159	153	158	159	159	195	0
5	✓	✓		150	133	≷103	105	114	130	150≶	170	175	160	161	149	≷140	140≶	139	142	139	≷132≶	119	112	123	139	141	155	138	1
6	✓	✓	✓	160	151	149	151	153	167	158	178	170	150	151	151	143	(142	141)	138	133	131	152	149	128	⌈122	103	83⌋	144	0
7				⌈ 74	91	86	63⌋	—	—	—	—	—	238	215	196	186	169	166	168	164	151	176	195	221	221	250	255		0
8	✓			281	280	255	262	264	250	223	196	≷177	143	156	143≶	112	132	146	140	133	122	119	113	113	112	103	90	169	1
9	✓	✓	✓	110	112	114	133	151	150	175	171	162	150	150	152	144	143	143	146	140	129	121	139	154	168	186	195	147	0
10	✓	✓	✓	176	168	171	159	143	⌈112	79	111⌋	170	172	168	161	146	142	140	150	143	131	137	127	121	121	117	126	141	0
11	✓			147	139	140	158	140	156	159	178	220	232	212	186	195	199	205	210	176	167	172	173	181	169	140	121	174	0
12	✓			109	105	112	130	151	162	177	235	(288)	261	244	211	202	210	216	224	209	193	219	220	242	237	247	274	203	0
13	✓	✓		288	292	294	316	312	309	310	327	304	252	242	238	204	(193	173)	167	166	≷166	184	199	175≶	193	220	265	241	1
14				298	285	310	318	336	345	352	355	327	310	247	216	219	202	192	187	156	163	171	186	188	184	182	193		0
15				206	208	⌈141	116	92	130	164⌋	209	—	—	—	202	183	178	180	157	154	136	156	167	170	192	208	177		1
16	✓	✓	✓	168	148	158	171	⌈170	127	138	137	255⌋	328	319	311	268	248	247	228	207	187	191	204	203	187	161	(181)	206	0
17				—	—	—	—	—	—	—	—	—	300	320	326	309	292	243	230	220	216	221	238	253	247	259	310		0
18	✓	✓		301	311	357	356	375	372	383	401	375	354	270	280	328	283	266	230	237	≷236	265≶	235	294	316	328	336	312	1
19	✓	✓		317	319	331	357	419	435	401	391	≷361≶	329	338	346	327	337	319	308	288	237	200	⌈157	70	110	144⌋	162	292	1
20				164	—	—	—	—	—	—	—	—	202	216	219	224	224	(183)	⌈168⌋	204	207	⌈185	138⌋	175	162	156	138		0
21				130	126	⌈100	101	104⌋	—	—	—	—	162	158	157	180	201	204	220	221	187	144	129	147	151	146	123		0
22				108	85	80	98	96	128	129	153	172	195	267	221	199	212	212	203	188	199	220	232	220	231	232	235		1
23	✓	✓		260	278	290	288	299	332	324	325	347	372	361	390	382	265	213	190	183	177	185	214	246	248	252	265	279	1
24				300	283	283	301	315	278	298	292	333	325	284	238	217	211	209	201	174	156	145	169	184	183	⌈163	88⌋		0
25				⌈ 83	96	72	96	65	116	156	150	156	226⌋	300	293	271	258	248	239	233	210	195	190	192	201	185	180		0
26	✓	✓	✓	174	192	182	⌈162	90	108	150	186⌋	210	236	312	336	338	329	261	248	230	240	⌈125	96	122	128	127	128⌋	196	0
27	✓	✓	✓	⌈127	128	126	121	109	110	136	142⌋	169	188	201	207	211	213	(211)	202	212	214	212	210	232	238	230	237	183	0
28	✓			228	⌈168	146	96	149	186	167	129⌋	132	138	139	149	149	151	147	138	130	130	132	142	145	145	130	105	145	0
29	✓	✓	✓	121	124	108	100	110	144	155	168	188	190	189	183	156	132	144	157	166	164	176	175	194	206	230	246	164	0
30	✓	✓	✓	247	231	238	275	280	288	284	277	243	252	229	192	172	162	158	165	174	176	179	186	190	192	192	200	216	0
31	✓	✓	✓	191	191	186	194	193	186	186	192	194	192	193	190	177	157	170	183	183	185	184	182	192	191	213	208	188	0
MEANS * 21 DAYS				194	191	190	200	202	209	211	219	231	232	227	221	212	201	193	188	182	171	166	167	174	177	177	183	197	
MEANS † 16 DAYS				196	195	193	205	204	208	213	222	234	239	233	231	221	205	195	189	185	178	173	170	175	180	182	192	201	
MEANS ‡ 11 DAYS				166	162	156	169	159	160	168	177	199	214	214	208	196	188	182	181	177	173	165	164	172	170	167	172	177	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 313

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				70	77	70	70	N 37	55	Z	52	67	N 24	N 78	59	Z	Z	Z	Z	107	99	88	85	86	85	90	N 43		2
2				87	N 64	77	92	93	103	118	88	65	72	80	80	Z	Z	91	97	85	92	82	89	86	88	82	85		1
3	✓	✓	✓	62	62	60	59	71	62	54	51	62	64	69	75	78	86	85	72	73	74	55	59	[48]	(61)	74	62	66	0
4	✓	✓	✓	71	69	77	75	85	68	64	62	68	64	72	83	81	82	87	90	90	80	70	82	74	82	68	68	76	0
5	✓	✓	✓	73	74	[82	89	91	99	76	79	62]	59	80	82	74	75	82	77	64	[58	41	50	64]	53	50	60	71	0
6	✓			57	50	50	53	50	47	48	46	41	43	41	46	59	64	71	79	79	74	84	64	69	69	N 48	79	59	1
7				Z	Z	Z	Z	Z	Z	Z	N 11	Z	62	105	70	99	108	112	116	117	119	110	109	106	100	96	91		2
8				142	135	72	58	62	92	73	N 50	50	93	84	98	96	82	96	93	73	77	73	64	65	68	64	74	81	1
9	✓	✓	✓	62	54	65	64	48	53	53	52	59	64	69	69	80	75	73	59	N 27	56	35	41	74	71	73	63	60	1
10	✓	✓		59	57	59	61	67	71	61	Z−	Z	Z	Z	Z+	Z	Z	Z	98	[64	27	47	51	68]	74	74	68		2
11	✓	✓	✓	73	[80	79	80	54	100	81	54]	59	58	45	50	69	92	80	86	85	[64	32	38	59]	85	85	75	69	0
12	✓	✓	✓	74	79	75	76	64	[60	105	120	117]	103	114	94	101	96	90	90	73	[98	107	83	102	135	115]	85	94	0
13				96	106	101	101	100	111	109	96	83	76	75	—	—	—	—	—	—	—	—	—	—	82	73	82		0
14	✓	✓		N 48	N 16	77	83	72	69	67	68	73	77	81	85	72	82	80	79	74	68	63	64	75	81	86	87	72	1
15	✓	✓	✓	90	93	124	106	106	105	106	105	101	96	84	80	87	80	78	85	84	78	78	77	74	74	74	79	89	0
16	✓	✓	✓	87	96	99	102	102	103	98	91	84	72	72	67	68	72	79	73	72	72	65	71	76	87	92	93	83	0
17				97	101	108	114	116	111	105	94	70	N 32	54	N 22	N 31	70	N 24	Z	Z	N 13	65	N 43	62	67	86	91		2
18				Z	Z	103	Z+	90	86	78	80	85	80	85	75	77	80	91	85	78	73	69	56	57	56	57	61		1
19				N 40	N 18	Z	Z	Z	55	64	Z	Z	Z	N 23	Z	Z	Z	187	Z	Z	128	82	65	51	70	69	86		2
20	✓	✓		71	105	[228	278	203	152	132	159	159	92	73]	65	64	N 37	55	62	58	60	62	57	64	74	64	86	102	1
21	✓	✓	✓	86	64	63	65	55	56	55	56	58	47	48	45	47	51	54	50	39	18	32	16	N 13	N 57	N 55	N 37	49	1
22				N 60	N 43	N 47	69	41	N 33	N 29	N 5	N 14	N 6	64	N 22	Z	Z	N 90	72	79	N 61	N 58	82	103	Z	78	80		2
23				90	92	105	106	N 78	111	110	[174]	—	90	104	N 68	Z	97	100	101	105	106	109	102	88	79	74	88		1
24				100	77	79	102	112	114	114	118	100	91	119	Z	105	N 54	79	111	N 65	73	72	Z	Z	Z	Z	Z		2
25				Z	Z	Z	103	102	145	150	91	126	N 92	N 74	N 82	Z	N 62	Z	105	84	81	N 46	Z	N 69	89	123	131		2
26				120	N 38	69	113	114	111	Z	Z	Z	133	Z	Z	105	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z		2
27				Z	Z	138	136	136	171	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	N 87	Z	Z	86	94	98		2
28				96	112	117	117	102	103	96	73	65	80	79	77	Z	N 72	69	90	N 68	105	100	88	93	90	79	90		1
29				105	Z	N 55	Z	Z	Z	Z	103	Z	111	100	Z	Z	Z	Z	Z	Z	105	90	93	88	97	76	53		2
30	✓	✓		71	81	[133	198	200	149	90	95	91]	68	82	88	102	N 71	105	150	N 98	64	86	N 42	N 35	−25	53	68	91	1
31																													
MEANS * 14 DAYS				76	76	92	99	90	87	79	78	77	71	72	73	77	75	80	82	71	67	63	58	64	69	72	73	76	
MEANS † 13 DAYS				78	78	95	103	93	90	81	80	80	74	75	75	78	75	80	82	70	67	61	57	63	69	73	72	77	
MEANS ‡ 9 DAYS				75	75	80	80	75	78	77	74	74	70	73	72	76	80	81	81	75	73	65	65	70	80	76	76	76	

DESIGNATIONS AND REMARKS:

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( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 314

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	735.4	13.0	95	18.7	12.3	0.16	1.4	N	8	NNW	6	WSW	7	NNW	1	CuNb; Nb	10- 7	CuNb; Nb	6- 4	Steady rain in am; showers in evening
2	738.2	14.6	92	17.5	9.5	0.29	3.4	NNW	1	WNW	1	S	6	SSW	1	Cu; Nb	10- 7	Cu; Nb	6- 4	Showers at intervals; clearing in evening
3	742.7	13.5	87	19.6	8.0	0.10	4.4	..	0	WNW	1	NW	1	..	0	ACu; ASt; Cu; St	10	ACu; ASt; Cu; St	10	
4	743.8	15.0	85	20.3	9.2	T	6.1	..	0	NNW	1	SW	2	S	1	CiSt; ACu	1- 6	CiSt; ACu	4- 6	Dew early
5	743.8	12.5	93	20.7	7.0	T	3.8	..	0	ENE	1	NNW	2	..	0	CiSt; ACu; ASt	7-10	ACu; ASt	7-10	Fog until $8^h.5$
6	741.7	13.9	81	19.4	10.1		0.4	..	0	NNW	1	NW	6	NW	1	Ci; CiSt; ASt; Cu	7-10	Ci; CiSt; ASt; CuNb	7-10	Dew early; rain at night
7	740.1	16.1	96	21.8	14.0	0.79	4.2	NW	6	NNW	3	W	6	..	0	CuNb; Nb	7-10	CuNb; Nb	7- 8	Rain in early hours and in am; rain at night
8	743.8	14.3	97	20.4	10.0	0.11	2.5	..	0	..	0	N	1	..	0	ACu; ASt	7-10	ACu; ASt; Cu	7- 8	
9	742.7	16.1	80	20.7	13.3	T	1.8	V	1	NNW	2	NW	5	NNE	1	ACu; ASt	7-10	ASt; StCu; Cu	7-10	Dew early
10	739.4	15.8	95	16.3	13.5	0.31	0.0	NW	1	NW	7	SSW	2	WNW	1	Nb	10	Nb	10.	Rain from early hours and through day
11	744.3	13.9	96	18.2	11.5	0.59	1.1	..	0	NNW	2	N	2	..	0	ACu; ASt; CuNb	7-10	ACu; ASt; CuNb	7-10	Dew, possibly fog, early; few light showers during day
12	746.4	15.5	86	20.4	10.6	0.02	6.6	..	0	WNW	1	SSW	6	SSE	2	ACu; ASt; CuNb	4- 6	ACu; ASt; CuNb	4- 6	Fog early
13	750.4	12.8	84	19.3	8.5		5.7	SE	4	E	7	ENE	16	E	2	CiSt	1- 3	CiSt	1- 3	Dew early; clouding in evening
14	747.4	14.0	77	19.2	12.0		1.6	ENE	5	NE	6	NE	9	ENE	5	ACu; ASt	7-10	ACu; ASt	7-10	Dew early
15	746.0	14.0	67	20.9	10.7		8.8	NE	7	NE	12	NE	12	ENE	8		0		0	
16	745.3	14.0	58	19.2	11.4		4.2	NE	..	NNE	15	NNE	12	NE	8	CiSt; ACu	8-10	ACu; ASt; Cu	10	
17	742.7	14.3	47	16.9	13.9		0.1	NNE	14	N	8	NNE	4	NNE	5	ACu; Cu; Nb	10	Cu; Nb	10	Showers during day, chiefly in pm; lightning in evening
18	740.8	14.0	64	20.7	10.0	0.11	6.4	N	1	N	6	NNW	8	N	1	Ci; ACu; Cu	6- 8	Ci; ACu; Cu	6- 1	Possibly dew early
19	738.5	15.3	90	18.7	12.0	T	1.0	NNW	1	NNW	6	WNW	6	NW	1	ASt; StCu; Nb	9-10	ASt; StCu; Nb	9-10	Dew early
20	742.0	15.0	100	19.4	14.0	0.50	1.6	NW	2	NW	3	N	3	..	0	Cu; Nb	10- 7	Cu	6- 1	Heavy mist or misty rain until 10^h; rain in am
21	742.0	15.1	96	19.9	9.0	0.40	1.0	..	0	..	0	..	2	..	2	ACu; ASt	10	Cu; CuNb	10	Possibly dew early; rain at night
22	737.2	14.5	87	15.9	13.0	0.24	0.4	..	2	..	2	NNW	14	NW	5	StCu; Nb	7-10	ASt; StCu; Nb	7-10	Rain in early hours and all day
23	736.8	13.7	91	18.4	10.8	0.17	7.7	NW	2	NW	3	W	15	WNW	1	StCu; CuNb	1- 6	StCu; CuNb	7-10	Fog early; scattered showers during day; dew at night
24	736.6	13.3	95	16.1	11.2	0.13	1.7	NNW	2	NW	4	WSW	10	WNW	1	ACu; Nb; StCu	7-10	ACu; StCu; Nb	7-10	Rain at intervals
25	736.4	12.4	88	17.2	9.9	0.44	4.4	NW	1	WNW	1	W	5	NW	1	ACu; StCu; Nb	5-10	ACu; StCu; Nb	7-10	Rain at intervals
26	731.1	13.5	95	16.7	12.5	0.59	3.7	NW	5	W	14	WSW	15	WNW	2	Nb	10	Nb	10	Heavy showers during day; clearing somewhat at night
27	732.0	13.0	78	16.3	12.9	0.59	2.6	WSW	9	W	12	WSW	9	W	1	FrCu; Nb	7-10	FrCu; Nb	7-10	Rain and hail
28	739.7	10.3	92	16.4	5.3	0.26	4.0	W	1	NW	1	SW	3	..	0	CiSt; ACu; CuNb	2- 6	CiSt; ACu; CuNb	7- 8	Dew early; a few light showers; rain at night
29	736.2	13.3	90	16.5	8.2	0.17	2.3	NNW	1	NW	7	WNW	4	NW	1	CiSt; ACu; Cu; Nb	7- 8	FrCu; Cu; Nb	7- 8	Dew early; rains through day; light rain at night
30	742.7	12.5	95	17.3	8.5	0.65	4.3	NW	1	NW	1	W	10	SSE	3	CiSt; Cu; Nb	6-10	Cu; Nb	10	Heavy mist till $8^h.5$; rain at 10^h; showers in evening
31																				
SUM						6.62														
MEAN	740.9	13.9	86	18.6	10.8		3.2	2.6		4.5		6.8		1.8						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 315

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			190	205	207	205	185	180	152	170	184	167	166	163	144	96	97	123	140	129	140	162	184	194	194	181	165	2
2	✓			218	222	218	206	190	162	141	176	229	210	183	166	144	142	152	157	160	164	167	179	192	205	214	219	184	1
3	✓	✓	✓	248	259	259	258	233	245	278	296	299	262	207	193	183	186	188	186	193	185	180	201	186	196	203	222	223	0
4	✓	✓	✓	222	235	231	244	222	236	249	263	(277)	295	266	209	193	181	180	181	179	180	181	193	201	203	219	220	219	0
5	✓	✓	✓	222	226	[197	190	186	155	197	216	289]	296	233	223	229	228	216	216	220	216	[236	282]	246	257	294	296	232	0
6				295	316	343	345	338	339	353	376	414	419	385	347	303	272	241	218	211	222	215	223	242	238	210	207		1
7				188	231	144	151	—	—	—	—	160	190	180	179	175	166	157	155	154	152	164	146	—	—	201	207		2
8	✓	✓		144	164	264	293	314	229	242	254	220	196	194	184	175	166	167	181	179	180	188	190	179	192	218	212	205	1
9	✓	✓		240	277	290	275	310	308	291	276	263	248	222	211	209	190	180	181	197	203	198	205	188	210	246	267	237	1
10				275	285	—	—	—	—	—	—	58	91	51	152	91	—	—	—	159	162	166	167	170	171	185	201		2
11	✓	✓	✓	218	[229	233	244	310	212	252	321]	289	266	241	227	194	192	192	193	186	190	202	198	215	219	246	223	229	0
12	✓	✓	✓	258	259	281	275	286	[233	190	177	205]	203	181	179	175	179	180	181	177	[152	136	138	129	129	140]	168	192	0
13	✓			188	203	215	220	218	211	227	244	278	309	299	263	246	214	205	206	227	229	235	242	245	259	286	273	239	0
14	✓	✓		271	270	286	296	299	317	298	293	267	277	252	223	236	233	232	236	231	229	235	266	233	254	271	270	261	1
15	✓	✓	✓	262	264	261	258	257	252	248	249	241	229	223	218	218	214	209	210	218	220	214	218	228	232	253	244	235	0
16	✓	✓	✓	236	233	236	237	235	229	226	223	207	223	218	203	205	212	210	212	209	214	218	211	218	209	205	206	218	0
17	✓			207	205	201	214	209	216	212	206	206	201	207	220	220	220	(183)	144	167	200	202	194	193	194	207	216	202	2
18	✓			192	194	220	212	233	224	231	229	222	226	219	212	209	203	205	201	209	210	207	219	232	236	248	272	219	1
19	✓			233	277	278	307	238	289	277	277	273	209	229	235	100	148	184	183	79	172	179	193	193	198	197	197	214	2
20	✓	✓		202	141	[87	86	96	115	138	140	104	134	167]	193	193	185	205	206	194	200	186	205	193	223	233	203	168	1
21	✓	✓		177	277	307	302	323	308	304	310	323	347	335	326	310	294	287	294	307	286	290	307	307	259	238	271	295	1
22				280	266	281	290	325	339	345	338	360	319	310	266	240	197	246	240	219	210	205	209	201	193	205	203		2
23	✓			206	227	222	220	207	196	205	[116	210]	249	220	183	148	170	167	167	168	171	179	181	205	231	233	223	196	1
24	✓			211	203	219	206	206	192	190	192	205	216	209	170	181	179	181	189	186	190	218	219	175	192	222	171	197	2
25				144	114	168	226	194	90	160	244	233	216	200	186	157	176	167	192	190	197	192	164	206	174	192	183		2
26				181	177	190	190	192	196	104	105	104	148	127	115	122	142	142	166	158	140	148	(179)	183	168	171	157		2
27	✓			155	140	157	167	180	174	166	157	162	152	152	154	151	167	166	164	181	181	180	167	183	185	177	183	167	2
28	✓			193	194	192	189	180	186	220	246	295	259	222	209	168	188	185	188	167	175	183	207	210	205	207	175	202	1
29				142	149	209	166	180	167	186	206	212	216	218	175	190	113	181	131	141	193	194	216	235	207	228	240		2
30	✓	✓		245	232	[166	105	118	129	183	205	262]	308	250	220	194	180	183	190	186	194	200	194	167	180	214	220	197	1
31																													
MEANS * 23 DAYS				215	223	227	226	228	217	222	228	240	238	222	208	192	190	189	191	190	194	198	207	204	211	225	223	213	
MEANS † 13 DAYS				227	236	238	236	245	228	238	248	250	253	230	216	209	203	202	205	206	204	205	216	207	213	229	232	224	
MEANS ‡ 9 DAYS				231	251	255	254	262	242	248	259	266	263	236	221	213	206	194	196	195	193	193	204	199	207	223	222	226	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ⌇⌇=DISTURBED BY BAD WEATHER

TABLE 316

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			217	218	234	231	252	224	229	212	197	219	190	194	186	142	111	137	124	122	126	139	149	168	169	188	182	2
2	✓			197	202	193	181	171	128	110	135	227	216	178	162	149	151	137	129	128	111	111	119	138	154	171	171	157	1
3	✓	✓	✓	197	218	231	219	216	222	255	280	273	265	197	174	170	171	(173)	178	169	159	160	153	148	152	155	193	197	0
4	✓	✓	✓	179	195	188	180	192	210	224	221	253	280	264	218	188	180	174	167	148	139	150	153	170	170	200	213	194	0
5	✓	✓	✓	206	197	[150	151	169	148	180	181	271]	292	225	211	217	218	202	185	190	[186	216	241	207]	219	235	255	206	0
6				250	284	307	318	318	—	—	—	388	377	363	345	305	265	239	202	196	186	186	184	207	207	195	187		1
7				216	216	215	176	98	170	225	188	180	161	151	160	158	148	138	128	123	111	112	124	121	131	158	170		2
8	✓	✓		108	128	217	256	271	187	179	221	198	148	158	138	128	124	118	109	135	118	135	146	142	138	170	159	160	1
9	✓	✓	✓	195	229	245	243	262	264	258	245	229	224	207	203	194	176	167	160	171	158	171	171	150	170	207	230	205	1
10				237	256	254	256	254	245	246	216	239	206	225	126	163	—	—	119	127	138	130	126	118	123	128	144		2
11	✓	✓	✓	147	[153	171	178	234	130	196	231]	233	218	215	206	170	144	147	144	149	140	141	163	155	165	177	184	175	0
12	✓	✓	✓	189	219	218	197	216	[199	127	99	139]	147	148	144	149	148	142	141	137	[117	98	87	88	79	86]	122	143	0
13	✓			136	147	158	153	158	145	159	179	246	281	280	253	228	202	189	187	188	196	191	191	206	224	231	226	198	0
14	✓	✓		243	258	238	241	253	256	254	245	220	238	222	196	207	207	206	206	215	208	209	218	198	209	217	221	224	1
15	✓	✓	✓	218	215	208	202	198	199	200	201	198	195	198	197	141	193	190	189	190	191	183	188	190	202	213	211	196	0
16	✓	✓	✓	203	196	195	189	188	187	186	189	181	203	199	192	191	190	183	187	181	184	203	190	199	191	185	183	191	0
17	✓			184	183	183	180	178	178	176	178	191	198	202	215	227	214	207	(197)	188	203	180	188	178	171	173	177	190	2
18	✓			168	165	148	148	202	188	189	195	199	211	209	216	211	198	190	193	194	180	169	179	198	209	217	229	192	1
19	✓			262	264	267	245	178	270	246	195	199	255	244	176	173	198	150	127	107	124	123	142	151	142	154	153	189	2
20	✓	✓	✓	147	114	[59	55	64	81	108	106	82	102	144]	162	160	159	158	154	139	120	124	154	142	149	160	135	124	1
21	✓	✓		141	235	240	233	258	258	262	254	249	280	273	272	257	244	234	226	246	249	246	265	280	258	254	298	250	1
22				231	—	—	—	262	290	—	—	290	288	264	266	258	259	221	216	202	195	186	177	164	175	171	170		2
23	✓			168	176	169	160	170	144	135	[83	162]	191	187	166	171	151	148	144	135	127	128	127	137	152	169	154	152	1
24	✓			148	150	158	147	139	144	141	137	146	168	161	181	153	155	150	(145)	141	144	145	150	150	151	98	160	148	2
25				109	137	163	139	119	59	—	—	—	165	175	170	177	161	157	150	140	123	141	173	149	120	149	141		2
26				139	158	157	144	144	148	158	189	—	—	114	139	121	118	86	96	97	108	109	110	113	128	98	109		2
27	✓			99	110	118	112	109	111	65	88	76	79	89	57	65	46	45	71	65	57	128	68	68	108	112	127	86	2
28	✓			135	137	128	109	109	110	127	164	207	196	170	163	164	147	135	138	130	119	117	118	123	134	144	119	139	1
29				99	169	171	167	128	152	131	157	148	161	171	—	—	—	—	—	176	93	[106	145	139	109	141	168]		2
30	✓	✓		[159	134	99	67	78	88	138	148	211]	250	196	182	167	162	151	143	137	141	127	139	145	155	136	129	145	1
31																													
MEANS * 23 DAYS				176	184	183	177	185	177	180	182	199	211	198	186	177	170	161	155	157	152	156	160	161	168	175	184	176	
MEANS † 13 DAYS				179	192	189	185	200	187	197	202	211	219	204	192	180	178	173	168	170	162	166	174	170	174	184	195	186	
MEANS ‡ 9 DAYS				186	206	205	199	215	202	210	211	225	234	214	202	186	179	165	162	160	150	157	164	160	163	176	184	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 317

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				74	78	77	69	75	87	84	89	114	84	91	91	N 79	85	85	Z+	96	94	93	104	105	96	88	63		1
2	✓			64	57	54	60	59	56	51	58	74	80	72	83	79	81	63	99	97	96	92	93	89	86	77	87	75	0
3				85	86	84	92	86	93	92	92	102	99	101	90	88	92	94	97	86	92	N 105	Z+	Z	Z-	Z	N 107		2
4	✓			143	122	107	109	111	99	100	68	106	100	76	80	96	94	100	107	109	104	(94	84	74)	63	60	54	95	0
5				59	56	63	73	79	84	96	100	81	73	74	57	61	60	Z	105	N 64	83	Z	N 67	Z	Z	118	98		1
6				108	118	Z	136	Z	155	Z	Z	133	Z	106	150	86	86	111	82	Z	88	—	—	—	85	84	90		1
7				95	98	99	86	89	73	72	73	85	75	—	97	84	N 78	86	N 93	N 59	102	91	84	Z	Z	Z	Z		2
8				Z	Z	Z	N 137	Z	Z	Z	Z	Z	Z	110	Z	86	84	92	88	83	51	—	—	—	—	—	—		2
9				—	—	—	—	—	—	—	—	—	N 63	74	72	79	122	147	Z	110	84	—	—	—	83	94	90		1
10				91	101	99	N 95	N 87	103	102	96	110	83	80	68	83	101	92	91	98	93	—	—	—	78	81	74		1
11	✓	✓	✓	62	59	58	82	58	61	61	58	73	77	82	80	78	90	99	89	77	63	68	66	73	77	76	78	73	0
12	✓	✓	✓	73	72	66	66	77	87	87	73	69	70	78	78	86	83	88	91	96	74	83	67	69	60	58	50	75	0
13	✓	✓	✓	53	52	50	47	47	48	49	50	64	65	65	70	82	90	93	90	91	85	78	83	62	65	53	54	66	0
14	✓	✓	✓	59	[59	68	81	114	128	143	136	86]	64	74	82	96	102	101	105	107	104	94	87	82	79	77	75	92	0
15				N 37	Z	N 68	79	N 64	81	96	Z	N 108	N 59	117	114	98	111	101	105	104	106	93	92	81	77	79	93		1
16				115	124	Z	Z	N 71	126	124	128	104	N 79	119	90	118	92	N 79	93	90	89	96	95	74	71	71	75		1
17	✓	✓	✓	59	51	52	51	45	44	43	39	49	57	64	67	80	85	89	86	76	[61	59	57	40	43	64]	73	60	0
18	✓	✓	✓	76	64	59	68	78	69	73	69	68	72	88	87	87	94	94	92	86	70	78	88	96	123	116	110	84	0
19	✓	✓	✓	101	99	101	106	94	96	96	76	64	61	64	80	76	77	91	99	106	90	100	99	114	117	110	117	93	0
20	✓	✓	✓	117	105	99	87	89	78	74	69	60	50	50	58	77	67	73	79	81	71	76	83	82	76	90	82	78	0
21	✓	✓	✓	95	93	94	90	88	86	88	87	76	69	68	74	73	81	80	83	80	68	64	72	77	87	85	107	82	0
22	✓	✓	✓	94	85	86	72	78	70	62	64	61	58	55	73	83	94	98	95	88	78	88	87	85	103	86	82	80	0
23	✓	✓	✓	82	71	69	73	78	74	67	60	[49	53]	57	66	71	85	92	96	105	[83	90	150	104]	91	103	93	82	0
24	✓	✓	✓	91	82	74	81	77	69	64	59	66	74	80	90	91	93	97	96	96	84	69	82	64	60	57	52	77	0
25				45	46	50	52	54	52	46	47	50	56	72	84	93	85	86	77	69	96	105	110	118	87	Z	Z		1
26				Z	Z	Z	Z	156	Z	170	N 132	95	133	Z	112	109	109	106	105	126	118	110	116	93	96	107	83		1
27	✓	✓	✓	86	82	69	70	60	72	58	54	73	71	76	85	82	90	85	90	100	96	83	83	81	92	90	82	80	0
28	✓	✓		80	81	77	52	63	55	59	67	74	N 56	N 70	118	85	82	80	88	86	91	71	123	86	91	81	82	79	1
29				77	91	96	95	87	73	59	50	69	71	90	83	90	97	103	109	108	101	—	—	—	100	96	91		0
30	✓	✓	✓	96	82	89	[65	77	77	64	64	86]	98	91	90	86	84	96	91	99	106	101	100	87	92	83	90	87	0
31	✓	✓	✓	91	91	125	150	136	119	[100	90	103	102]	87	89	82	83	86	97	92	86	85	79	85	84	75	86	96	0
MEANS * 18 DAYS				85	78	78	78	79	77	74	70	72	71	72	81	83	86	89	93	93	84	82	88	81	83	80	81	81	
MEANS † 16 DAYS				82	77	77	78	79	77	74	70	70	69	72	80	82	86	90	92	92	82	80	88	80	84	82	82	80	
MEANS ‡ 15 DAYS				82	76	77	79	80	79	75	70	70	69	72	78	82	87	91	92	92	81	81	86	80	83	82	82	80	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 318

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S., LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.8	11.6	88	14.7	7.0	0.14	5.4	..	0	WNW	1	WSW	6	..	0	Cu; Nb	1- 8	Cu; Nb	7- 8	Occasional showers through day; clear in evening
2	742.4	11.5	88	17.7	3.5	0.07	5.0	..	0	NW	3	W	11	NW	1	Cu; FrCu	6-10	Cu; FrCu	10- 6	Dew early
3	738.9	13.5	92	19.4	9.8	0.01	4.2	NNW	1	NW	4	W	16	W	12	ACu; FrCu; Nb	7- 8	ACu; FrCu; Nb	7- 8	Dew early; rain in evening
4	738.8	15.1	69	18.8	10.2	0.46	6.8	WSW	4	WSW	4	WNW	2	..	0	Cu	1- 6	Cu	4- 6	
5	735.8	15.0	89	18.9	7.8	T	0.8	NNW	1	NNW	9	W	14	W	10	ACu; FrCu; Nb	9-10	ACu; FrCu; Nb	10	Dew early; showers through day and at night
6	737.3	13.7	67	16.6	10.6	0.28	5.9	WSW	15	WSW	8	WSW	14	W	1	ACu; StCu; CuNb	3- 8	ACu; StCu; CuNb	7- 8	Showers during the day
7	739.0	11.3	95	17.2	5.0	0.03	3.4	W	2	NW	4	WNW	15	WNW	14	CuNb; Nb	7-10	CuNb; Nb	7-10	Rain at intervals
8	735.7	11.0	90	15.6	8.9	1.24	5.8	WSW	10	WSW	14	WSW	17	WNW	1	ASt; ACu; Nb	7-10	ASt; ACu; Nb	7-10	Rain at intervals
9	741.6	11.0	91	16.1	8.6	0.09	6.3	WNW	1	W	2	W	7	NW	1	ACu; ASt; Nb	10- 7	ACu; ASt; Nb	6- 4	Occasional showers; clear at night
10	746.1	14.0	88	18.4	7.4	0.10	6.0	WSW	4	NW	1	SSW	2	SSW	1	Cu; StCu	1- 3	Cu; StCu	1- 3	Dew early, and in evening
11	749.1	12.0	85	16.5	4.5		5.8	..	0	..	0	E	1	..	0	StCu	10- 7	StCu	6- 4	Dew early; clearing in evening
12	748.8	12.2	77	19.9	4.5		9.0	..	0	NE	1	N	3	..	0		0		0	Dew early
13	745.4	10.5	66	21.3	4.3		8.9	..	0	NNW	2	WSW	8	..	0		0		0	Dew early
14	743.3	11.5	94	19.7	4.2	T	7.2	..	0	NNW	2	W	12	WNW	3		0	Cu	1- 6	Heavy mist until 9h; clearing in evening
15	741.8	12.5	92	16.4	10.5	0.24	4.7	SW	4	SSW	1	SW	10	W	2	Nb; Cu	10- 7	Cu; Nb	6- 4	Rain after 0h; showers during day
16	743.1	11.3	72	14.6	9.2	0.22	4.1	WSW	12	SSW	8	SSW	10	..	0	ASt; Cu; Nb	3- 8	Cu; Nb	8- 4	Showers in am; clear in evening; dew at 23h
17	748.3	9.2	90	15.9	2.0	T	8.8	..	0	..	0	NNE	1	..	0		0		0	Dew early
18	747.4	10.3	71	15.6	2.4		7.8	..	0	N	1	E	4	SE	1		0		0	Dew early
19	746.4	8.7	72	15.5	1.9		8.0	..	0	ESE	1	ESE	5	SE	1		0		0	Frost early
20	747.7	8.5	62	15.9	1.3		9.2	S	1	SE	1	E	2	SE	2		0		0	Slight frost early
21	747.6	9.5	60	15.8	2.1		9.0	S	2	E	1	E	5	SE	4	CiSt	1- 3	CiSt	1- 3	Dew early
22	746.8	10.1	59	17.6	2.1		7.8	..	0	..	0	NNE	2	..	0	CiSt	8- 7	CiSt	6- 4	Dew early; clearing in evening
23	746.4	9.3	73	18.8	3.9		6.0	..	0	NNW	1	..	..	..	..	CiCu	9- 7	CiCu	6- 4	Clearing in evening
24	745.7	11.5	62	20.0	2.8		9.2	..	..	..	..	NW	3	..	0		0		0	Dew early; thin haze over sky
25	741.7	11.3	64	20.7	1.0		5.4	..	0	NW	2	WNW	9	WNW	12	ACu; StCu	0- 6	ACu; StCu; CuNb	7-10	Dew early; rain in evening and at night
26	739.4	11.5	88	15.8	10.9	0.55	6.2	SW	11	SSW	6	SSW	11	..	0	ACu; ASt; CuNb	7- 8	ACu; ASt; CuNb	6- 4	Showers at intervals
27	743.9	10.2	95	16.9	5.9	0.03	4.8	..	0	NNW	1	W	6	WNW	2	ACu; Cu	4- 6	ACu	4- 6	Dew early
28	741.6	14.0	88	18.5	9.0	0.01	6.0	NW	3	WNW	3	SW	12	SSW	1	ASt; Cu; Nb	9-10	ASt; Cu; Nb	10	Showers at intervals; rain at night
29	744.3	11.1	95	15.7	8.9	0.14	3.1	..	0	..	0	SSE	3	..	0	Cu; StCu	10	ASt; Cu; Nb	10	Showers in evening; clearing at night to few ACu
30	745.6	10.3	91	15.5	2.5	0.01	6.2	..	0	..	0	SE	8	..	0	Cu	1- 3	Cu	4- 6	Light mist at 8h; clear in evening
31	747.9	9.7	80	15.7	2.0		5.4	..	0	..	0	SSE	6	..	0	Cu	1- 6	Cu	7- 8	Dew early; clear in evening
SUM						3.62														
MEAN	743.5	11.4	80	17.3	5.6		6.2	2.4		2.7		7.5		2.6						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 319

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			202	196	200	219	213	213	215	221	214	209	192	185	177	180	177	}155{	182	173	180	182	191	212	222	257	199	1
2				284	310	328	330	341	356	367	331	303	243	209	189	177	171	167	156	164	172	183	189	184	189	183	178		0
3	✓			192	192	194	191	192	194	200	194	200	191	177	162	131	148	156	153	155	164	165	}156{	77	104	128}	150	165	2
4				144	143	142	147	152	146	153	158	168	170	162	155	156	161	164	165	166	—	—	—	—	239	257	279		0
5	✓			284	280	272	253	237	218	203	197	189	186	177	174	167	}149	129	143	153	153	142	(156)	124	108}	130	129	181	1
6	✓			124	129	}108{	132	}138{	146	}142{	153	160	153	154	154	153	149	150	153	}136{	155	165	176	171	177	190	188	152	1
7				176	183	200	227	243	264	265	249	215	189	191	178	161	}156{	143	142	148}	165	178	156	}143{	134	100	93}		2
8				}59{	150	144	152	130	138	129	161	142	137	153	131}	134	134	154	159	164	}154{	158	168	164	178	182	168		2
9	✓			168	180	178	179	182	179	190	185	201	196	185	177	177	168	174	}114{	170	166	164	185	190	192	180	177	177	1
10	✓			182	179	173	170	172	190	190	⌈186	168⌋	201	190	188	189	189	183	180	182	179	178	178	182	197	203	⌈226⌋	186	1
11	✓	✓	✓	⌈228	234	245	150	200	237	250	202	250	221⌋	221	190	183	190	192	191	190	196	191	190	191	186	192	203	205	0
12	✓	✓	✓	214	226	242	237	228	233	236	242	264	271	263	234	225	226	220	214	220	214	202	225	230	249	259	263	235	0
13	✓	✓	✓	277	285	284	283	286	288	285	293	318	325	310	292	262	218	200	192	190	189	192	189	213	214	226	228	252	0
14	✓	✓	✓	246	⌈228	240	214	190	174	167	184	262⌋	318	260	191	173	172	160	156	162	167	177	189	197	201	192	197	201	0
15	✓			}172	144	146	165	156	154	161	138	168	155}	155	158	164	(158)	160	164	165	167	171	178	185	201	194	177	165	1
16	✓			162	158	}129	112}	143	144	152	156	160	}153{	159	164	164	162	165	166	170	168	168	183	197	212	215	225	166	1
17	✓	✓	✓	237	264	284	275	284	319	331	350	336	298	239	228	206	190	177	154	158	173	⌈168	144⌋	177	178	192	200	232	0
18	✓	✓	✓	198	221	238	242	244	249	242	249	263	245	210	202	192	191	194	190	200	206	191	185	184	167	167	170	210	0
19	✓	✓	✓	184	190	204	216	232	231	228	249	279	296	265	233	213	200	191	186	197	191	179	185	176	168	167	168	210	0
20	✓	✓	✓	179	191	203	213	214	226	236	249	278	308	308	273	221	206	191	186	180	182	179	170	177	197	198	200	215	0
21	✓	✓	✓	192	192	191	191	190	191	192	204	240	250	249	220	204	201	192	194	194	202	192	178	165	164	161	153	196	0
22	✓	✓	✓	156	172	191	216	231	257	256	253	285	275	260	224	180	(168)	166	178	166	⌈143⌋	155	189	179	166	189	208	203	0
23	✓	✓	✓	222	243	260	268	263	264	265	293	⌈263	310⌋	289	279	221	209	204	203	204	⌈189	188	144	186⌋	190	173	179	230	0
24	✓	✓	✓	189	203	233	239	260	284	301	306	312	285	264	239	215	214	206	214	218	209	214	216	238	260	270	263	244	0
25	✓			260	272	284	297	299	335	378	397	391	357	273	214	188	174	166	154	154	162	174	171	158	162	}129	148}	237	1
26	✓			}80	138	140	142	137	123	147	152}	160	(160	162)	162	160	160	166	167	173	168	167	176	195	192	191	212	160	1
27	✓	✓	✓	203	237	266	293	317	297	298	292	286	270	225	201	179	170	168	167	167	166	178	173	177	158	165	171	218	0
28	✓	✓		174	179	180	182	184	180	182	196	192	}165	154}	154	148	144	152	164	160	162	167	154	165	174	176	191	170	1
29				201	197	196	206	224	}236	245	260}	—	—	210	195	190	(183)	177	178	180	183	192	190	188	190	196	200		0
30	✓	✓	✓	185	194	202	⌈236	240	244	271	272	272⌋	206	191	179	167	166	165	162	154	142	147	155	165	172	179	159	193	0
31	✓	✓	✓	146	142	129	130	143	154	⌈177	176	176	176⌋	182	168	167	168	164	166	170	171	174	178	180	192	191	180	167	0
MEANS * 26 DAYS				194	203	208	209	214	220	227	230	242	238	220	202	186	180	176	172	176	175	176	177	180	184	188	193	199	
MEANS † 16 DAYS				202	213	226	224	232	239	245	251	267	264	243	219	197	190	184	182	183	181	181	179	188	190	194	196	211	
MEANS ‡ 15 DAYS				204	215	227	227	235	243	249	254	272	270	249	224	201	193	186	184	185	183	182	181	189	191	195	196	214	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 320

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			134	135	140	171	164	153	160	157	169	177	167	171	162	160	(147)	142	128	116	113	118	126	[140	117	178]	148	1
2				—	—	—	—	—	—	—	—	—	195	191	180	173	170	162	150	149	141	139	141	142	136	139	136		0
3	✓			141	147	149	147	149	150	153	155	161	167	165	162	150	146	149	145	145	146	144	157	189	168	143	118	152	2
4				101	98	97	104	104	90	94	107	124	128	132	124	127	129	136	135	134	107	108	121	162	180	204	234		0
5	✓			238	234	232	217	196	187	169	168	166	163	156	157	156	148	149	137	146	145	161	149	135	132	121	120	166	1
6	✓			107	109	120	104	108	108	99	108	106	108	126	120	128	129	122	128	130	117	115	129	125	130	149	148	120	1
7				126	140	153	175	176	199	215	199	178	170	171	167	158	150	145	139	144	140	142	148	141	—	—	—		2
8				211	165	98	118	106	130	—	—	125	110	129	118	135	138	135	139	144	142	138	128	142	147	149	149		2
9	✓			156	145	140	149	149	146	141	150	161	171	169	160	162	151	148	160	130	127	126	141	142	149	142	140	148	1
10	✓			142	142	135	129	137	130	[107	98	101]	150	148	157	151	145	148	144	135	109	114	121	139	141	163	[156]	135	1
11	✓	✓	✓	[162	160	194	116	138	170	174	162	173	174]	161	161	147	150	152	148	146	141	136	135	139	130	137	146	152	0
12	✓	✓	✓	171	180	180	184	180	170	173	186	199	227	225	208	198	199	190	184	171	154	147	177	190	211	240	254	192	0
13	✓	✓	✓	261	265	265	272	267	288	287	289	286	300	297	287	263	224	206	189	172	154	157	151	195	197	215	217	238	0
14	✓	✓	✓	219	[223	227	205	171	166	156	191	254]	305	256	192	171	168	159	155	146	138	138	141	158	167	168	166	185	0
15	✓			163	150	127	117	128	109	97	117	98	126	112	121	128	128	(128)	130	131	126	121	127	147	159	161	146	129	1
16	✓			130	127	146	181	128	107	108	106	120	123	121	136	135	139	137	136	140	120	107	118	142	147	180	184	134	1
17	✓	✓	✓	198	209	235	226	258	269	309	314	287	259	209	210	171	161	143	128	124	149	[149	128]	147	139	154	187	198	0
18	✓	✓	✓	178	196	225	223	218	216	218	224	225	224	191	188	185	181	180	172	174	175	147	150	141	107	127	132	183	0
19	✓	✓	✓	139	150	159	175	191	187	183	232	270	280	255	226	211	210	192	176	180	161	136	150	131	125	141	128	183	0
20	✓	✓	✓	138	154	171	195	196	215	225	233	261	309	308	288	230	210	189	186	178	161	157	151	160	169	182	186	202	0
21	✓	✓	✓	176	186	187	190	191	191	195	200	230	243	258	235	230	226	219	215	208	197	195	174	154	137	128	129	196	0
22	✓	✓	✓	131	152	171	213	229	254	263	262	288	285	282	239	196	173	(163)	173	154	[107]	143	159	164	138	161	190	195	0
23	✓	✓	✓	197	234	224	246	246	254	269	272	[259	288]	282	283	230	206	198	189	171	[151	130	90	127]	160	170	171	210	0
24	✓	✓	✓	188	198	219	230	245	277	280	287	289	283	265	237	216	218	214	207	204	188	197	174	215	215	224	247	230	0
25	✓			268	279	283	302	291	302	367	385	386	352	279	219	195	177	168	157	156	157	159	159	148	144	175	164	236	1
26	✓			165	158	162	150	106	100	87	101	116	(109	108)	136	132	132	139	134	121	111	84	89	122	139	122	147	124	1
27	✓	✓	✓	160	171	177	211	237	263	246	249	237	243	209	196	178	166	165	159	151	135	131	130	132	139	142	147	182	0
28	✓	✓		150	149	150	147	150	146	138	149	175	165	150	128	135	128	130	141	129	113	118	88	109	109	120	128	135	1
29				141	127	118	128	141	162	180	171	171	156	157	151	157	(151	141)	138	136	128	108	96	109	120	121	130		0
30	✓	✓	✓	128	150	138	[181	161	167	235	244	188]	150	167	164	154	154	151	148	123	106	106	99	117	124	135	124	151	0
31	✓	✓	✓	87	101	91	79	97	110	[98	130	137	145]	166	155	153	154	150	141	139	124	121	127	128	148	159	128	128	0
MEANS * 26 DAYS				166	173	179	183	182	186	190	199	205	213	201	190	176	169	163	159	151	140	137	136	147	149	157	161	171	
MEANS † 16 DAYS				168	180	188	193	198	209	216	226	235	242	230	212	192	183	175	169	161	147	144	139	150	151	163	168	185	
MEANS ‡ 15 DAYS				169	182	191	196	202	213	221	232	239	248	235	218	196	187	178	171	163	149	146	142	153	154	166	170	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 321

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	95	82	99	90	101	118	112	106	98	91	93	96	87	90	101	104	108	96	85	84	[79	80	82]	78	94	0
2	✓	✓	✓	73	68	68	72	74	65	64	59	65	78	74	77	87	97	92	96	93	91	78	80	82	81	75	88	78	0
3	✓	✓	✓	86	67	68	65	64	74	70	63	76	74	81	80	92	84	87	95	106	101	76	80	85	82	74	86	80	0
4				82	62	N 32	50	47	52	42	41	64	51	65	53	41	41	—	—	—	—	—	—	—	69	70	72		1
5				[234	219	183	187	133	165	159	123	120]	96	64	92	N136	Z	Z	129	110	105	98	93	87	78	83	140		1
6	✓	✓		90	79	105	124	91	[146	258]	105	100	99	103	79	101	100	N 96	101	117	106	91	86	79	83	82	88	105	1
7	✓	✓		90	N 61	82	90	96	96	78	73	N 89	79	97	83	74	100	N 92	106	109	83	52	99	102	82	94	90	87	1
8	✓	✓	✓	95	85	78	69	69	64	70	70	68	59	78	87	92	96	100	106	95	100	115	105	105	103	106	128	89	0
9	✓	✓		129	130	128	129	136	131	128	114	N 76	−4	139	N 90	109	N100	118	110	106	121	109	84	82	69	82	78	104	1
10	✓	✓		73	73	83	59	57	100	120	67	59	43	65	N 33	75	N 43	N 59	90	67	65	86	73	64	32	90	96	70	1
11	✓	✓	✓	111	111	108	111	116	123	124	119	107	112	127	123	110	122	127	122	122	124	115	110	103	98	106	113	115	0
12				128	140	—	—	—	—	—	—	133	109	N 94	N 91	105	86	118	115	117	116	105	96	90	87	88	106		1
13				103	77	70	67	69	59	64	57	62	64	79	90	93	81	107	97	97	—	—	—	—	77	86	81		0
14	✓	✓	✓	86	87	86	74	90	87	88	80	71	72	67	68	70	72	72	77	78	[93]	80	94	105	102	92	58	81	0
15	✓	✓		70	88	97	92	79	60	59	67	79	90	88	93	58	N 88	N 75	89	96	78	72	80	97	92	74	−14	77	1
16				N 55	Z	Z−	112	94	96	106	113	116	92	92	83	101	92	93	88	96	84	79	65	64	67	58	53		1
17	✓	✓		58	77	85	85	63	58	N 39	N 33	N 82	100	76	62	57	86	81	86	73	88	65	69	109	90	78	64	74	1
18				63	63	64	56	N 65	Z	N 21	N 1	Z	Z−	Z−	N 53	73	73	70	91	96	104	86	93	96	115	89	82		2
19	✓			87	103	134	133	104	118	101	95	86	85	101	100	100	113	108	116	117	116	97	[130]	99	113	115	111	108	0
20	✓			107	95	110	114	112	100	90	88	85	94	108	101	103	93	96	107	97	80	64	72	77	65	59	64	91	0
21	✓	✓	✓	76	72	81	88	87	87	86	84	97	88	104	106	103	106	104	112	123	114	86	68	106	81	71	73	92	0
22				70	66	60	56	56	59	61	77	63	Z−	Z−	Z+	Z−	92	N 59	93	73	98	99	101	123	116	123	137		1
23	✓	✓	✓	104	79	95	[92	73	99	83	121]	113	87	87	108	97	93	92	104	98	88	87	90	94	106	108	87	95	0
24	✓	✓	✓	72	83	78	68	64	52	41	50	74	91	74	69	52	68	74	83	80	68	61	69	73	72	64	77	69	0
25	✓	✓	✓	70	65	73	75	69	65	72	73	82	92	101	106	97	108	105	106	105	99	86	81	78	65	74	73	84	0
26				70	64	67	70	74	64	N 50	N 23	—	—	106	97	N 66	N 82	77	N 92	Z	N100	N 92	125	106	165	105	113		1
27				113	147	178	Z	Z	Z	114	120	102	96	N 68	91	73	92	N 82	N 96	111	105	106	104	86	92	91	82		1
28	✓			56	63	64	54	62	58	65	90	82	82	80	90	100	89	104	118	117	115	106	96	100	90	93	88	86	0
29	✓			78	58	47	58	55	50	51	75	[160]	85	87	79	75	73	101	88	99	83	88	107	117	109	105	93	84	0
30	✓	✓		[73	65	63	63	54	48	46	40]	74	91	84	72	79	82	68	125	97	96	102	103	108	107	110	138	83	1
31	✓	✓	✓	140	133	133	133	125	117	118	105	98	86	76	84	86	95	111	123	91	121	95	123	124	106	108	107	110	0
MEANS * 22 DAYS				87	83	89	88	84	87	89	81	87	81	90	86	87	91	94	103	100	97	86	90	94	87	88	85	89	
MEANS † 18 DAYS				88	84	89	88	84	88	92	79	84	79	90	84	85	91	92	102	98	96	86	88	93	85	87	84	88	
MEANS ‡ 11 DAYS				92	85	88	85	85	86	84	85	86	85	87	91	88	94	97	103	100	100	88	89	94	89	87	88	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 322

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	750.5	9.0	85	15.6	1.8		8.8	..	0	E	1	ESE	6	ESE	1		0		0	Dew early
2	751.2	10.4	62	16.3	1.9		9.4	ESE	1	ENE	10	ENE	9	ESE	2		0		0	Dew early
3	747.1	11.3	64	18.0	4.1		9.3	ESE	2	NE	8	NE	8	NE	5		0	CiSt; ASt	1- 6	Cloudy in evening
4	738.1	10.4	95	13.9	9.5	0.06	0.1	NE	6	NNE	4	N	4	N	1	ASt; Nb	7-10	ASt; Nb	7-10	Some rain in early hours; clearing in evening
5	735.5	12.2	99	18.1	8.5	0.01	4.7	NW	2	NW	3	WSW	6	..	0	ACu; Nb	7-10	ACu; Nb	7-10	Fog 0^h-10^h; occasional showers during day
6	740.4	12.7	84	15.6	9.7	0.07	5.0	ESE	1	NW	1	SW	9	WSW	1	CiCu; ACu; CuNb	7- 8	CiCu; ACu; CuNb	4- 6	Occasional light showers
7	743.1	11.5	92	16.8	7.6	0.03	2.4	W	2	W	2	SW	6	SW	2	ACu; StCu; Nb	7- 9	ACu; StCu; Nb	7- 8	A few showers
8	742.7	10.5	89	17.6	6.1	T	1.2	NNW	1	NW	2	W	10	WNW	3	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Dew early; rain at night
9	741.7	12.5	97	17.9	8.9	0.11	5.1	WSW	2	WNW	1	SW	10	..	0	StCu; Nb	7-10	StCu; Nb	7-10	Occasional showers during day; clearing in evening
10	743.6	12.0	88	16.1	5.7	0.02	1.9	..	0	NW	2	WNW	3	NW	2	Cu; Nb	9-10	Cu; Nb	10	Heavy fog to 8^h; showers during day and at night
11	743.7	14.2	91	18.6	10.2	0.15	5.9	WNW	2	WSW	1	WSW	15	W	3	ASt; Cu; Nb	9- 7	ASt; Cu; Nb	6- 1	Occasional showers during day; clear in evening
12	745.2	13.6	92	18.5	9.6	0.03	5.3	W	3	WSW	2	SSW	8	..	0	Cu; Nb	9- 7	Cu; Nb	6- 1	Dew early; showers in am; clear in evening
13	746.5	13.6	83	19.8	6.1	0.01	6.6	..	0	NNW	1	..	..	..	..	ASt; ACu; Cu	4- 6	ASt; ACu; Cu	4- 6	Dew early
14	744.5	14.2	71	23.7	5.7		9.5	..	..	..	..	NW	2	SW	4		0		0	Dew early
15	744.7	16.0	76	18.6	7.0	T	2.7	..	0	..	0	SW	1	W	1	CiSt; ACu; Cu; Nb	3- 6	Cu; Nb	7-10	Dew early; occasional showers; rain at night
16	744.3	14.5	81	19.4	10.3	0.18	5.6	S	8	NNW	1	SSW	3	..	0	Cu; StCu	1-10	Cu; StCu	10- 1	
17	741.7	12.7	96	19.8	10.7	0.10	1.4	NW	1	N	3	SSW	19	ESE	5	Nb; StCu	7-10	Nb; StCu	7-10	Light showers
18	739.8	10.5	97	14.2	10.1	0.32	0.9	N	1	ESE	7	SE	6	SE	1	StCu; Nb	7-10	Cu; StCu	6- 4	Rain in am; clearing in evening
19	750.3	11.4	74	13.6	3.5	0.15	9.7	E	1	E	1	ENE	7	ESE	2		0		0	Light frost early
20	750.9	12.6	62	19.6	3.6		9.6	SE	1	NNE	4	NE	5	ENE	1		0		0	Dew early
21	747.0	14.2	50	21.0	4.8		9.7	NNW	1	NNW	7	NW	8	W	1	CiCu	1- 3	CiCu	1- 3	Dew early
22	742.7	14.2	91	16.2	3.6	T	0.5	..	0	W	4	NW	1	SE	4	StCu; CuNb	10	StCu; CuNb	10	Light rain during day; clearing in evening
23	743.6	13.2	92	19.4	6.5	0.27	5.5	..	0	..	0	WSW	4	..	0	ACu; ASt; StCu	8- 7	ACu; ASt; StCu	6- 4	Fog until 8^h
24	744.2	16.6	75	19.9	9.1	0.01	3.8	..	0	..	0	W	2	S	1	ASt; Cu; StCu	3- 8	Ci; FrCu; StCu	8- 4	Dew early; clearing in evening
25	743.0	15.2	74	21.8	5.8		8.8	..	0	NW	1	WSW	8	SW	1	Ci; CiSt; FrCu	1- 3	Ci; CiSt; CiCu	4- 6	Dew early; clearing in evening
26	738.2	15.5	91	15.9	10.5	0.11	2.9	NNW	1	WNW	3	SW	12	SW	7	CuNb; Nb	7- 9	CuNb; Nb	7-10	Rain during day and evening
27	741.3	11.0	69	14.9	4.9	0.09	3.9	SW	6	SSW	11	SSW	11	SSW	1	Cu; StCu; Nb	4- 8	Cu; StCu; Nb	7- 8	Light showers in pm; clear at night
28	743.2	12.5	84	18.3	5.0	0.01	5.0	..	0	WSW	4	SW	2	SW	1	Cu; StCu; Nb	7-10	Cu; StCu	6- 4	Dew early; clearing in evening
29	745.4	12.9	88	16.8	5.0	0.01	2.7	..	0	NNW	1	ESE	1	..	0	ASt; FrCu	2- 6	ASt; Cu	4- 6	Mist until $8^h 8$; overcast in evening
30	744.9	14.6	70	16.7	4.8	0.01	2.8	..	0	W	1	SSE	4	S	2	ACu; StCu; CuNb	7-10	ACu; StCu; CuNb	7-10	Dew early; few showers during day; clear at night
31	746.7	10.5	75	15.9	6.0		9.7	SSE	4	ESE	8	ESE	6	..	0	Cu; StCu	1- 3	Cu; StCu	1- 3	Dew early
SUM						1.75														
MEAN	744.1	11.1	82	17.7	6.6		5.2	1.5		3.1		6.5		1.7						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 323

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	149	158	172	171	155	150	169	172	204	201	179	157	148	144	142	142	144	158	169	176	168	160	160	174	163	0
2	✓	✓	✓	177	194	201	214	222	(228	262	293)	[245	207]	210	205	172	147	156	158	178	185	187	196	194	203	209	228	203	0
3	✓	✓	✓	223	234	243	243	250	252	262	262	255	247	219	206	195	196	182	179	173	174	166	173	182	190	169	173	210	0
4	✓			173	181	188	213	241	255	245	250	219	203	194	195	203	205	206	205	215	219	220	226	223	223	218	217	214	1
5	✓			[104	115	127	125	170	189	147	184	137]	177	203	{186	174	163	160}	179	184	184	182	185	201	226	217	185	171	1
6	✓	✓		173	166	161	136	147	[130	60]	174	204	194	185	180	172	172	170	170	169	172	181	185	193	194	196	196	170	1
7	✓	✓		193	{182}	197	192	192	194	213	220	187	168	172	169	170	160	158	160	169	158	156	160	169	168	169	185	178	1
8	✓	✓	✓	213	239	259	284	313	(309	306	310)	294	260	230	202	171	156	148	152	146	147	160	172	173	169	157	148	213	0
9	✓	✓		156	157	164	164	168	170	182	187	{215	161}	170	150	145	140	145	147	152	153	158	174	180	196	188	204	168	1
10	✓	✓		235	[215	200	275	280	158	185	248]	272	266	219	174	171	{157	157}	162	166	161	165	173	173	172	168	178	197	1
11	✓	✓	✓	168	158	163	169	161	161	158	157	171	157	145	144	146	137	136	139	137	137	140	141	145	160	157	150	152	0
12	✓			138	136	146	147	147	150	160	158	171	162	168	160	155	158	162	169	169	168	170	177	192	198	195	184	164	1
13	✓			188	205	214	229	249	275	296	314	311	288	231	203	174	173	174	174	169	182	184	179	188	204	196	187	216	0
14	✓	✓	✓	182	181	181	188	178	192	201	237	[283	267]	259	230	226	201	196	195	186	[162]	184	188	184	171	172	174	201	0
15	✓	✓		168	169	172	180	213	257	272	275	239	203	172	162	152	{157	149}	146	161	154	158	170	171	172	176	{144}	183	1
16	✓			{147	99	135}	150	169	176	168	171	172	176	170	169	170	162	161	162	162	160	165	181	200	194	206	228	169	1
17	✓	✓		230	209	219	231	232	241	234	{217	193}	225	228	195	200	168	148	149	169	168	181	173	169	166	185	195	197	1
18	✓			203	219	217	229	{250	182	215	218	173	238	160	249}	229	196	190	181	171	169	174	169	169	157	171	185	196	2
19				192	169	161	169	169	207	222	239	244	215	188	182	178	(184)	160	170	165	158	162	[117]	160	157	168	180		0
20				187	195	204	205	209	222	245	264	286	209	180	179	181	173	169	164	169	171	184	181	184	172	203	214		0
21	✓	✓	✓	215	228	219	215	205	206	206	215	206	194	171	157	155	158	158	156	149	154	158	166	157	195	217	238	187	0
22	✓			252	267	282	287	294	284	260	250	218	{116	112	153	157}	182	163	168	171	171	161	150	144	169	161	161	197	1
23	✓	✓	✓	171	188	181	[180	176	133	163	154]	194	226	221	194	182	170	164	160	161	162	170	173	178	186	192	214	179	0
24	✓	✓	✓	243	235	230	252	269	284	306	308	268	218	201	192	182	173	174	184	184	184	181	185	188	195	213	205	219	0
25	✓	✓	✓	229	253	259	254	271	283	267	259	237	194	166	158	157	154	150	155	149	160	170	187	195	215	222	226	207	0
26	✓			246	262	274	297	287	275	{210	226}	196	163	148	137	140	147	147	148	{141}	147	148	158	154	161	150	156	188	1
27				160	158	{157	124	137	128}	148	153	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
28																													
29				—	—	—	—	—	—	—	—	—	—	162	161	165	171	162	160	166	162	160	169	171	173	181	203		0
30	✓	✓		206	228	230	220	220	239	252	252	217	181	172	170	181	181	166	163	166	163	164	160	158	166	168	138	190	1
31	✓	✓	✓	122	124	128	133	135	135	139	147	157	158	165	156	150	144	127	115	125	141	158	161	161	170	174	180	146	0
MEANS * 26 DAYS				189	192	199	207	215	212	213	225	217	202	187	179	172	165	161	162	164	165	170	175	177	184	185	187	188	
MEANS † 18 DAYS				192	195	199	206	210	207	213	227	224	207	194	178	171	162	157	157	160	161	167	173	174	180	183	186	187	
MEANS ‡ 11 DAYS				190	199	203	209	212	212	222	229	229	212	197	182	171	162	158	158	157	160	168	174	175	183	186	192	189	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 324

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	118	134	115	118	116	104	92	112	168	199	188	168	160	157	157	145	145	139	135	144	125	116	125	149	139	0
2	✓	✓	✓	161	166	171	175	190	212	240	275	[234	208]	218	223	181	156	162	166	188	183	174	168	174	197	205	191	192	0
3	✓	✓	✓	186	228	240	244	263	260	269	265	264	267	246	229	221	215	206	193	179	171	164	158	180	183	163	165	215	0
4	✓			171	180	201	214	255	267	258	255	219	208	199	200	218	220	212	216	209	203	202	222	224	219	211	221	217	1
5	✓			[99	111	123	127	174	183	142	185	143]	183	208	(193)	172	167	153	(153)	146	135	132	131	149	174	174	144	154	1
6	✓	✓		145	133	115	80	92	[80	34]	140	162	166	156	158	162	155	152	135	142	130	113	135	150	150	161	156	133	1
7	✓	✓		154	168	173	149	145	161	165	184	163	152	155	151	157	145	143	142	142	144	146	122	113	132	131	122	148	1
8	✓	✓	✓	155	192	222	245	270	278	266	266	265	251	228	206	175	160	153	154	144	141	131	133	148	153	142	134	192	0
9	✓	✓		131	132	122	110	116	128	138	141	182	182	157	153	123	129	123	124	124	112	100	102	134	175	155	166	136	1
10	✓	✓		198	[174	172	242	271	133	153	225]	258	257	215	180	152	161	153	154	158	148	138	130	138	139	150	134	176	1
11	✓	✓	✓	124	122	132	134	131	134	114	124	152	132	117	124	135	123	122	119	114	112	114	114	120	134	132	122	125	0
12	✓			112	104	113	91	106	113	114	96	140	134	142	140	134	138	(141)	134	134	115	99	118	134	156	163	127	125	1
13	✓			133	161	188	201	194	237	244	268	284	274	207	166	154	156	138	147	142	154	124	130	141	165	157	159	180	0
14	✓	✓	✓	153	151	155	168	155	164	166	206	[255	239]	246	228	228	213	201	200	199	[145]	158	168	155	151	140	143	183	0
15	✓	✓		142	153	148	153	195	251	257	260	228	200	164	153	143	140	123	130	143	143	131	131	143	153	160	163	167	1
16	✓			154	171	154	131	[106	82	82	114]	127	131	131	141	134	143	144	142	132	128	121	144	164	155	183	178	137	1
17	✓	✓		193	181	180	193	213	211	220	191	174	207	212	185	199	170	147	135	156	156	182	169	151	145	148	162	178	1
18	✓			162	170	161	181	149	225	230	238	(239)	322	324	264	222	193	180	163	156	144	124	119	125	109	127	142	186	2
19				158	127	89	98	141	142	170	180	211	196	174	175	181	162	(156)	158	—	—	—	—	—	—	—	—		0
20				—	—	—	—	—	—	—	—	243	210	174	174	174	170	158	151	156	155	174	165	160	158	182	175		0
21	✓	✓	✓	187	194	199	191	190	185	193	201	190	194	177	162	158	155	161	154	144	143	144	161	145	185	208	223	177	0
22	✓			243	257	274	283	312	278	273	240	228	194	191	168	181	155	152	152	140	132	119	120	109	87	90	91	186	1
23	✓	✓	✓	100	93	109	[108	66	79	113	105]	164	203	193	180	168	166	151	143	134	128	125	122	114	89	123	164	131	0
24	✓	✓	✓	193	174	184	194	237	243	236	274	231	184	150	167	173	171	170	160	169	164	157	154	152	146	164	173	184	0
25	✓	✓	✓	191	189	226	232	238	202	240	214	212	175	164	162	163	162	149	156	151	144	140	152	164	180	181	196	183	0
26	✓			222	225	236	274	266	245	199	230	171	150	140	134	131	134	(145	121	127)	123	124	122	122	113	119	121	166	1
27				126	100	110	105	120	121	119	113	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
28																													
29				—	—	—	—	—	—	—	—	—	153	146	142	148	145	140	141	125	117	124	121	102	111	112	161		0
30	✓	✓		177	191	175	177	184	192	200	225	207	162	157	162	166	163	162	145	151	145	118	124	125	118	124	110	161	1
31	✓	✓	✓	102	106	111	107	101	104	110	126	150	163	173	164	160	143	129	107	114	115	121	114	92	120	120	115	124	0
MEANS * 26 DAYS				158	164	169	174	182	183	183	198	200	198	187	175	168	161	155	150	149	142	136	139	142	148	152	153	166	
MEANS † 18 DAYS				156	160	164	168	176	173	178	196	203	197	184	175	168	160	154	148	150	142	138	139	140	148	152	155	164	
MEANS ‡ 11 DAYS				152	159	169	174	178	179	185	197	208	201	191	183	175	166	160	154	153	144	142	144	143	150	155	161	168	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

()=INTERPOLATED []=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 325

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	107	113	115	118	85	77	101	79	97	96	99	97	102	107	129	128	140	105	94	116	110	115	106	109	106	0
2				104	91	100	100	97	93	92	97	88	96	—	—	—	—	—	109	102	83	73	90	115	119	107	[89]		0
3	✓	✓	✓	[99	67	101	134	87	109	102]	93	69	61	68	75	79	87	88	97	117	141	154	143	132	128	118	114	103	0
4	✓	✓	✓	90	86	102	118	114	108	109	119	110	104	105	110	97	102	113	111	117	109	115	114	100	93	81	85	105	0
5	✓	✓		91	[75	155	163	159	128]	119	133	121	142	128	122	≷128	N105	136	N 74	N128	150	132≷	149	146	138	142	121	129	1
6				139	≷114≷	150	157	172	N118	137	N 3	N 95	N 96	N 24	N 21	N 97	N 93	N 54	111	106	Z	N104	N 97≷	132	138	132	126		1
7	✓			136	136	143	128	143	136	119	122	113	114	≷N 82	82	96	N 82	104	N 82≷	106	108	100	111	119	123	120	128	114	1
8	✓			135	132	128	141	145	131	128	120	106	≷N 69≷	106	102	101	106	101	116	101	111	95	109	112	101	92	84	111	1
9				74	63	41	—	—	—	—	—	88	92	77	75	66	79	74	92	80	82	83	80	87	84	79	95		0
10				100	118	97	117	102	92	100	114	≷N 77	N 68	Z	101	N 62	N 76	87	N 65≷	80	78	92	100	99	96	101	116		1
11				117	104	85	71	82	86	90	90	84	107	105	106	92	90	110	(105	105)	102	115	111	97	91	—	—		0
12				—	—	—	—	—	—	—	—	88	96	106	104	101	96	98	90	89	91	68	74	[114	109	89]	80		0
13	✓	✓	✓	80	73	72	73	75	63	60	60	60	59	63	70	79	83	89	82	95	87	68	90	87	85	87	86	76	0
14	✓	✓		82	55	61	56	59	60	56	69	79	73	78	82	82	88	101	99	104	109	112	110	138≷	122≷	[164	186]	93	0
15				116	102	≷N 77≷	120	137	90	138	≷N146	Z	Z+	Z+	Z+	142	Z+	Z+	Z+	Z+	Z+	N110	Z+	Z+ ≷	111	111	130		1
16	✓	✓	✓	102	106	114	123	105	91	74	90	83	86	93	81	82	91	78	73	93	80	86	80	79	83	87	75	89	0
17	✓	✓	✓	77	69	80	77	90	119	91	73	65	74	71	57	60	68	65	63	69	66	78	82	69	65	51	59	72	0
18	✓	✓		[123	197	228	119]	53	50	48	66	61	68	72	68	69	70	69	79	78	81	76	77	79	78	85	88	87	0
19	✓	✓	✓	77	78	65	77	56	51	47	49	41	40	46	45	54	51	61	63	73	73	62	59	54	56	44	54	57	0
20	✓	✓		56	53	54	58	55	58	58	59	69	63	57	60	58	64	64	68	72	83	85	80	83	97	≷N 17	109≷	66	1
21			≷	115	N 45	N 86≷	128	111	127	123	122	102	≷N 74	81≷	82	82	83	76	83	81	80	93	92	91	91	—	—		1
22				—	—	—	—	—	—	—	—	69	71	73	78	82	86	86	89	101	111	101	106	103	117	119	101		0
23				100	118	113	108	106	91	79	69	59	56	60	70	71	69	75	73	—	—	—	—	—	—	—	—		0
24				—	—	—	—	—	—	—	—	—	55	58	60	63	64	70	74	91	83	73	79	[113	128	128	137]		0
25	✓	✓	✓	[148	109	124]	117	103	86	90	74	67	60	59	70	78	82	93	101	84	75	64	76	93	100	106	105	90	0
26	✓	✓	✓	91	92	88	78	74	67	56	59	65	63	66	78	83	86	88	90	90	91	88	90	96	89	85	105	82	0
27	✓	✓	✓	106	112	113	92	87	74	74	71	52	53	60	75	65	74	69	67	79	83	68	69	70	65	68	65	75	0
28				77	77	Z	Z	63	—	—	—	58	55	[Z	57	64	65	66]	67	81	88	82	88	110	[148	196	170		1
29				[145]	127	114	—	—	—	—	—	97	≷N 81	N 82≷	96	104	≷N191	Z ≷	100	106	108	106	113	113	125	121	129		1
30				128	110	110	100	101	88	96	82	77	96	98	77	69	≷ Z	Z ≷	83	94	94	97	108	124	111	—	—		1
31																													
MEANS * 16 DAYS				100	97	109	104	93	88	83	84	79	77	78	80	82	84	90	87	97	97	92	97	98	96	91	98	91	
MEANS † 14 DAYS				95	92	105	100	86	82	78	78	74	74	76	78	80	83	89	85	96	95	92	95	95	94	89	97	88	
MEANS ‡ 10 DAYS				98	90	97	101	88	84	80	77	71	70	73	76	78	83	87	88	96	91	88	92	89	88	83	86	86	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 326

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	749.3	12.0	75	18.0	1.8		9.0	S	2	SE	1	E	2	SSE	1	Ci; CiSt; StCu	1- 6	CiCu; StCu; Cu	7- 8	Dew early; clear at night
2	749.6	13.4	67	16.8	4.3		10.4	..	0	ENE	4	ENE	1	S	3		0		0	Light dew early, and in evening
3	742.8	14.3	61	22.2	4.5		10.4	SSE	1	..	0	SW	4	SSE	3		0	Ci	1- 3	Dew early
4	740.1	14.7	69	19.9	6.1		7.2	..	0	..	0	WSW	8	..	0	Ci; CiCu; Cu; FrCu	1- 4	Ci; CiCu; Cu; FrCu	5- 6	Dew early
5	738.0	15.0	76	18.9	7.1	T	6.3	WNW	6	NW	5	NW	16	NW	4	ASt; FrCu; Nb	2-10	ASt; FrCu; Nb	7-10	Showers throughout day from early hours
6	734.5	15.4	91	18.0	12.1	0.25	1.9	WNW	4	WNW	8	SW	14	WSW	9	Cu; Nb	7-10	Cu; Nb	7-10	Rain at intervals; some heavy showers
7	740.3	12.9	78	16.6	7.6	0.08	4.8	WSW	6	WSW	8	WSW	16	W	5	Cu; Nb	6-10	Cu; Nb	7-10	Showers at intervals
8	741.4	15.9	77	18.3	11.1	0.13	5.3	W	7	SW	13	SW	10	..	0	Cu; Nb	1- 6	Cu; Nb	6- 4	Occasional showers
9	742.0	14.1	87	18.9	6.1	0.02	3.7	..	0	WNW	2	WSW	8	WNW	2	Cu	9- 7	Cu	6- 1	Mist early
10	735.9	13.4	92	16.8	10.7	0.05	3.1	WNW	3	WSW	11	SW	20	SSW	1	Cu; Nb	7-10	Cu; Nb	7-10	Occasional showers
11	742.6	12.5	69	17.0	4.3	0.04	5.5	..	0	SSW	4	SSW	8	SW	1	ACu; StCu; Nb	4- 6	ASt; StCu; Cu	7- 8	Possibly dew or rain early
12	746.0	13.2	62	17.2	7.1		5.8	S	1	E	2	E	4	ESE	1	CiCu; CiSt; ASt; Cu	3- 8	CiCu; ACu; StCu	7- 8	Dew early
13	742.9	14.1	50	22.5	4.6		10.0	ESE	2	NE	3	E	1	S	3	Ci; CiCu; CiSt	2- 6	Ci	4- 6	
14	739.8	16.6	50	23.3	4.5		10.1	..	0	..	0	SW	8	S	3	Ci; CiCu	1- 3	Ci; CiCu; CuNb	4- 6	Rain at 21h
15	737.8	13.5	66	15.3	10.9	0.08	5.6	W	10	WNW	17	W	13	W	7	ASt; Cu; Nb	3- 6	ASt; StCu; Nb	7- 8	Occasional showers
16	746.1	13.4	81	17.8	6.8	0.13	4.8	SW	1	WSW	3	SSW	8	SSW	1	ASt; FrCu; Nb	4- 6	ASt; StCu; Nb	7- 8	Occasional showers
17	747.9	13.3	82	19.4	5.7	0.02	4.3	..	0	NNW	2	WSW	4	..	0	FrCu; StCu	7-10	FrCu; StCu	7-10	Mist early
18	747.5	15.0	82	24.5	7.1	0.01	10.7	E	1	ENE	1	NW	1	SSE	4	Cu; FrCu	1- 3		0	Rain at 9h
19	742.9	22.0	38	33.1	10.6		6.9	..	0	N	2	NW	11	WSW	4	Ci; CiSt; CiCu	1- 3	CiCu; ACu	4- 8	Dew early
20	741.4	20.5	68	26.7	13.8		7.2	NNW	1	WNW	6	WNW	16	W	13	Cu; FrCu	2- 6	Ci; ACu; Cu	4- 8	
21	744.8	15.5	73	20.1	13.3	0.08	5.0	WSW	10	SSW	11	S	13	S	1	Cu; FrCu; Nb	1- 8	Cu; FrCu; Nb	7- 8	Rains in early morning
22	753.1	10.3	54	16.8	4.2	0.02	10.7	ESE	4	ENE	14	E	8	ESE	4		0		0	
23	750.3	13.0	55	20.4	4.0		10.7	SE	3	E	6	E	8	SE	5		0		0	Dew early; thin haze over sky
24	746.9	15.5	46	23.9	5.0		10.7	SSE	1	E	4	E	2	SE	3	Ci	1- 3	CiSt	1- 3	
25	745.7	17.0	50	26.4	6.2		10.8	SSE	2	ESE	3	..	..	..	..		0		0	Dew early
26	744.2	19.3	40	29.3	8.3		10.9	..	..	..	..	SSW	5	S	2		0		0	
27	743.3	21.5	40	29.2	8.0		7.1	S	1	E	1	ESE	1	ESE	5	Ci; CiCu	1- 3	Ci; CiCu	1- 3	
28	739.7	24.5	24	30.4	14.4		5.4	..	0	NNE	9	W	15	W	2	CiCu; ACu	3- 8	CiCu; ACu	7- 8	Heavy dew at 22h
29	740.3	17.3	65	14.9	13.3		7.3	SW	4	SW	9	SSE	12	S	4	CiCu; Cu; Nb	6- 3	Cu; StCu; Nb	7- 8	Fog early; showery during day
30	743.1	14.5	70	18.9	7.6	0.02	7.7	SSE	1	E	4	ESE	5	SE	2	FrCu; StCu	10- 4	ASt; Cu	4- 6	Heavy dew early; occasional showers
31																				
SUM						0.93														
MEAN	743.3	15.6	64	21.0	7.7		7.3	2.4		5.3		8.3		3.2						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 327

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	177	177	187	⌈191	198	210	200⌋	227	168	169	160	158	155	153	141	136	123	136	151	158	(159)	167	176	177	169	0
2	✓			177	177	169	176	180	183	185	191	207	187	189	171	157	178	(179)	187	189	201	192	181	179	166	147	142	179	0
3	✓	✓	✓	131	133	127	134	142	140	162	244	289	284	273	240	222	213	212	199	187	150	136	147	160	166	177	177	185	0
4	✓	✓	✓	187	199	190	179	190	197	179	179	186	180	166	164	165	164	155	153	153	155	157	167	175	208	223	233	179	0
5	✓	✓		246	⌈241	161	166	186	209⌋	233	241	216	178	157	146	≷141	123	131	140	142≶	155	151	156	153	147	155	152	172	1
6	✓			157	≷146≶	156	157	155	≷156	168	152	142	142	132	146≶	160	164	157	162	164	≷146≶	152	151	155	153	157	153	153	1
7				164	159	164	161	164	157	158	158	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
8				—	—	—	—	—	—	—	—	152	147	146	152	151	153	152	157	165	167	169	147	158	175	191	200		1
9	✓			202	224	237	260	263	⌈237	190	155⌋	200	197	190	190	180	(167)	166	(167	174)	169	173	175	187	197	201	187	195	0
10	✓			186	181	189	186	178	187	183	175	≷155	155	156≶	162	≷153	151	142	157≶	149	153	166	166	175	179	187	186	169	1
11	✓			188	200	212	244	243	220	190	188	180	175	171	170	168	166	166	165	167	167	169	166	177	198	219	214	188	0
12				220	208	220	233	206	196	211	198	189	180	136	115	145	—	—	—	—	152	173	164	⌈117	137	163⌋	190		0
13	✓	✓	✓	197	217	240	240	255	264	277	296	285	274	249	211	198	179	176	176	176	162	172	166	182	202	203	200	217	0
14	✓	✓		199	221	229	240	246	239	240	238	203	190	182	172	167	159	156	150	152	155	153	155	142	138	131	122	182	0
15	✓			141	148	≷130≶	128	113	113	127	130	≷117	127	126	127	145	147	151	126	132	117	143	133	128≶	140	145	148	133	1
16	✓	✓	✓	146	151	151	152	161	172	185	174	167	166	161	156	161	(161)	163	167	167	167	168	177	184	190	200	210	169	0
17	✓	✓	✓	213	219	⌈209	208	181	155	189⌋	244	234	200	187	184	189	182	179	182	185	178	176	176	179	187	192	187	192	0
18	✓	✓		⌈128	76	74	136⌋	192	203	226	213	228	211	188	197	184	177	167	156	155	158	162	172	166	171	157	150	169	0
19	✓	✓	✓	164	167	188	181	200	223	236	248	252	262	276	234	203	190	151	140	138	138	140	152	156	174	188	177	191	0
20	✓	✓		179	198	200	189	184	162	141	150	145	152	151	151	152	145	126	120	117	128	128	126	123	122	≷117	128≶	147	1
21				138	123	126	127	128	128	135	136	140	148	152	151	148	151	152	152	157	155	153	161	161	164	174	181		1
22	✓			232	226	196	187	193	204	211	206	186	180	152	138	121	114	118	106	108	116	121	118	121	112	114	136	155	0
23	✓			146	136	140	148	164	170	199	229	256	264	260	230	206	(182)	168	194	188	193	187	162	164	154	152	152	185	0
24	✓			139	140	148	176	180	200	229	253	263	288	259	248	222	194	181	170	164	160	166	170	⌈139	126	121	121⌋	186	0
25	✓	✓	✓	⌈120	128	145⌋	150	156	172	194	239	272	282	297	270	230	211	206	206	193	187	194	184	184	169	156	169	196	0
26	✓	✓	✓	180	192	211	222	227	253	285	312	315	319	293	267	218	180	180	180	156	175	198	196	196	196	194	174	222	0
27	✓	✓	✓	164	166	152	192	196	200	223	230	313	312	256	216	205	188	186	174	160	164	166	178	176	178	184	188	199	0
28	✓			169	182	199	230	244	256	256	266	244	216	⌈194	212	140	148	154⌋	162	166	162	156	140	136	⌈132	124	118⌋	184	1
29				⌈121⌋	127	134	145	154	160	164	175	170	162	156	158	166	≷168	160≶	164	160	168	163	—	—	—	—	—		1
30				—	—	—	—	—	—	—	—	216	193	176	164	166	—	≷142≶	168	156	160	154	139	146	169	184	181		1
31																													
MEANS *. 24 DAYS				174	177	177	186	193	197	204	216	218	213	201	190	177	168	163	161	159	158	162	161	162	166	168	167	180	
MEANS † 14 DAYS				174	178	176	184	194	200	212	231	234	227	214	198	185	173	166	163	157	158	161	165	167	172	175	175	185	
MEANS ‡ 10 DAYS				168	175	180	185	191	199	213	239	248	245	232	210	195	182	175	171	164	161	166	170	175	184	189	189	192	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	125	121	128	[132	140	131	154]	177	140	151	136	137	136	125	112	109	97	101	108	114	(115)	129	126	129	128	0
2	✓			122	139	137	140	147	139	140	158	198	178	175	161	144	157	159	158	158	168	164	154	145	130	111	101	149	0
3	✓	✓	✓	87	98	79	90	101	102	104	212	265	288	280	253	233	223	208	188	166	127	105	111	127	128	129	135	160	0
4	✓	✓	✓	142	142	144	127	142	158	143	140	148	151	154	157	166	157	145	140	141	131	125	120	131	176	207	209	150	0
5	✓	✓		226	[227	138	128	134	169]	199	213	208	173	160	152	{152	140}	138	{142}	137	138	130	122	116	126	120	128	155	1
6	✓			125	126	121	117	108	{130	129	162	130	129	138	152	140	147	145}	130	140	{127}	127	126	118	118	117	118	130	1
7				114	119	111	119	110	94	118	127	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
8				—	—	—	—	—	—	—	—	127	125	121	129	122	128	119	118	125	118	106	96	87	105	120	123		1
9	✓			130	169	178	187	228	[184	140	129]	179	175	169	173	177	170	(164	143)	146	142	145	151	148	154	168	159	163	0
10	✓			156	150	162	149	147	150	153	156	{151	148	155}	146	{148	146	128	138}	121	124	121	110	101	106	119	109	137	1
11	✓			109	116	171	195	189	156	147	140	139	140	147	147	142	139	130	130	126	126	113	89	111	138	138	151	139	0
12				159	143	161	157	147	126	151	136	148	152	116	98	123	125	130	127	139	130	149	127	[81	108	119]	150		0
13	✓	✓	✓	163	180	216	211	224	245	257	277	273	279	259	224	196	179	166	165	149	129	149	140	150	181	178	174	198	0
14	✓	✓		171	199	200	223	230	226	223	199	173	179	167	167	173	171	168	159	159	149	141	137	125	111	85	87	168	0
15	✓			111	119	{123}	118	93	100	110	111	{128	105	109	101	141	100	88	99	107	89	110	110	131}	90	113	101	109	1
16	✓	✓	✓	105	99	97	106	[99]	120	157	157	154	149	150	148	147	154	(155)	157	146	136	126	120	(130)	141	147	168	136	0
17	✓	✓	✓	169	189	[160	167	150	128	155]	222	231	186	169	177	181	182	177	169	158	147	131	136	128	142	168	160	166	0
18	✓	✓		[86	44	48	89]	140	173	188	155	200	197	171	185	167	157	149	139	134	137	127	147	146	131	119	111	139	0
19	✓	✓	✓	136	117	156	145	180	208	224	235	246	257	269	219	217	199	147	136	130	126	120	141	154	169	180	167	178	0
20	✓	✓		162	176	181	176	162	149	123	138	139	144	151	154	149	155	141	134	121	125	127	125	126	119	{126	149}	144	1
21				—	—	—	—	—	—	—	—	—	—	137	134	130	137	136	132	139	130	125	116	99	117	118	130		1
22	✓			140	151	144	141	151	148	156	176	169	168	139	126	108	102	101	96	91	96	91	89	89	80	82	103	122	0
23	✓			111	108	112	122	137	156	166	217	261	272	275	243	227	208	(179)	190	188	189	165	139	137	129	126	128	174	0
24	✓			118	101	109	149	157	176	191	249	281	297	265	257	224	188	172	163	147	137	137	139	[119	90	89	90]	169	0
25	✓	✓	✓	[83	85	101]	116	118	139	163	218	269	281	287	255	215	196	181	167	168	158	157	157	149	134	110	130	168	0
26	✓	✓	✓	147	157	181	187	197	224	246	287	296	292	266	246	205	159	163	158	119	137	152	152	150	158	138	134	190	0
27	✓	✓	✓	136	121	130	139	164	180	195	205	283	278	234	186	182	167	154	150	131	122	127	144	147	143	147	149	167	0
28	✓			137	146	150	188	206	218	215	228	228	197	[207	197	130	139	146]	150	148	139	130	120	108	[86	68	82]	157	1
29				[85]	96	100	101	105	109	123	126	131	130	122	131	138	{127	119}	131	124	123	116	110	111	100	106	98		1
30				100	109	108	99	106	109	136	195	195	178	159	151	161	162	(159)	149	131	130	108	99	93	106	134	123		1
31																													
MEANS * 24 DAYS				133	137	140	148	156	163	170	190	204	201	193	182	171	161	151	146	139	133	130	129	129	130	130	132	154	
MEANS † 14 DAYS				138	140	140	145	156	168	181	202	216	215	204	190	180	169	157	151	140	133	130	133	135	142	141	145	160	
MEANS ‡ 10 DAYS				129	131	139	142	152	164	180	213	230	231	220	200	188	174	161	154	140	131	130	134	138	150	153	156	164	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	81	—	—	—	105	119	114	118	123	124	114	106	111	92	100	87		0
2	✓	✓	✓	93	118	115	96	83	74	68	87	94	105	101	103	106	101	100	113	109	112	87	94	82	68	65	61	93	0
3				61	65	59	56	62	62	54	Z-	Z-	N151	154	114	106	108	113	114	121	105	101	103	96	101	91	90		1
4				87	80	90	73	—	—	—	—	94	84	91	79	79	92	91	89	81	83	91	88	71	87	102	91		0
5	✓	✓	✓	92	109	101	93	122	131	123	108	92	92	77	99	94	99	103	93	96	91	91	83	77	72	73	61	95	0
6	✓	✓	✓	53	60	52	61	52	45	48	60	75	80	81	82	74	95	93	83	91	98	70	64	91	114	111	78	75	0
7				—	—	—	—	—	—	90	105	76	73	72	86	92	94	101	101	98	90	83	80	87	77	87	60		0
8				48	37	51	38	31	46	65	—	78	83	63	60	52	36	76	81	70	65	61	48	52	Z	Z	Z		0
9				133	N 87	123	Z+	131	120	97	97	81	68	77	71	70	83	83	77	107	101	95	96	96	100	102	111		1
10	✓	✓	✓	101	113	108	105	74	74	80	87	81	80	80	79	86	105	101	111	118	118	107	113	108	113	111	106	98	0
11	✓			110	131	115	101	61	113	88	86	90	81	78	84	91	93	98	97	90	88	104	141	124	126	138	139	103	0
12	✓	✓		134	135	166	145	134	123	108	N 93	82	83	88	84	83	87	83	89	86	96	88	86	90	85	79	87	101	1
13	✓	✓	✓	84	77	60	81	74	62	89	91	97	97	83	66	73	83	97	85	88	88	92	87	90	98	106	100	85	0
14	✓	✓	✓	101	102	110	98	99	93	97	100	96	97	96	78	67	83	109	100	99	106	107	106	111	111	104	97	99	0
15	✓	✓	✓	101	100	91	87	90	92	90	76	77	77	81	80	79	94	102	105	104	104	115	118	123	138	141	126	100	0
16	✓	✓	✓	122	122	120	126	110	98	111	87	71	62	62	72	71	77	80	87	100	101	100	(105	113)	117	104	108	97	0
17				115	88	90	89	75	66	83	71	99	88	69	76	Z	N 52	118	117	83	107	101	65	83	86	93	92		1
18				—	—	—	—	—	—	66	98	94	83	103	91	80	98	101	111	117	67	97	122	124	128	134	87		0
19	✓			104	106	97	109	91	53	70	60	83	100	101	123	119	104	97	111	116	130	118	121	125	128	176	191	110	0
20				208	184	159	148	121	102	93	80	71	83	83	90	88	95	101	99	—	—	—	—	—	—	—	—		0
21				—	—	—	—	—	—	—	—	73	64	75	78	84	87	94	91	—	—	—	—	—	—	123	—		0
22				—	—	—	—	—	—	—	—	80	87	87	90	95	92	93	95	97	79	92	100	122	136	144	121		0
23				—	—	—	—	—	—	75	73	86	84	88	97	104	103	96	100	92	97	88	96	104	141	133	123		0
24	✓	✓	✓	142	110	97	78	81	57	75	79	76	89	86	87	84	91	94	97	101	94	92	85	123	140	166	136	98	0
25	✓	✓	✓	136	108	94	90	79	62	66	78	108	97	97	94	101	90	101	106	94	90	101	92	100	107	118	122	97	0
26	✓	✓		115	102	122	148	133	109	118	92	81	81	84	96	101	110	106	118	113	125	136	163	154	165	183	195	123	0
27	✓	✓		202	188	174	170	122	109	114	104	101	108	88	101	104	98	110	113	121	121	111	111	113	121	121	135	123	0
28	✓	✓		127	126	144	161	138	132	103	99	110	105	113	125	124	134	127	126	125	128	114	106	132	205	211	197	134	0
29	✓			209	197	183	152	127	104	73	55	57	59	67	74	78	83	94	88	88	98	109	127	138	126	119	100	109	0
30	✓			118	121	98	96	90	103	103	100	88	97	91	89	89	88	91	96	83	88	80	80	74	73	74	76	91	0
31				73	58	56	57	55	47	40	44	77	76	—	—	—	—	—	—	—	—	—	—	—	89	76	100		0
MEANS * 18 DAYS				119	118	114	111	98	91	90	86	87	88	86	90	90	95	99	101	101	104	101	105	109	117	122	118	102	
MEANS † 14 DAYS				114	112	111	110	99	90	92	89	89	90	87	89	89	96	100	102	103	105	101	101	108	118	121	115	101	
MEANS ‡ 10 DAYS				102	102	95	92	86	79	85	85	87	88	84	84	84	92	98	98	100	100	96	95	102	108	110	100	94	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 330

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	746.1	12.7	52	19.8	5.6	0.03	10.2	E	4	ENE	11	ENE	3	ESE	2	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Dew early
2	742.9	18.5	30	26.1	7.7		5.5	NNE	4	N	12	NNE	4	S	1	Ci; CiSt; CiCu	1- 6	CiSt; CiCu; ACu	7-10	Dew early
3	736.8	13.2	92	18.7	7.6	0.24	4.0	NW	1	SW	13	SW	14	..	0	Nb; FrCu	10- 4	ASt; FrCu; Cu	7- 8	Occasional rain
4	741.4	15.0	57	16.7	6.8	T	1.3	SW	2	WSW	7	SW	11	WSW	3	ASt; Cu; FrCu	7- 9	ASt; CuNb; Nb	7-10	Dew early; rain in pm
5	741.5	16.8	62	19.6	11.5	0.03	6.7	SW	6	SSW	10	S	9	S	1	ASt; Cu; Nb	10- 4	CiSt; StCu	4- 6	Rain before 7h
6	744.8	14.6	60	19.8	4.0		8.5	..	0	ENE	3	ESE	2	SSE	3	CiSt; Cu; StCu	4- 6	CiSt; ASt; Cu	7-10	Possibly dew early
7	741.6	17.6	48	18.5	6.3		10.5	SSE	1	NE	1	SW	8	SSW	2	Ci; CiCu	1- 3	Ci; CiCu; ACu	4- 6	Dew early
8	739.6	18.4	63	21.9	7.0		4.8	..	0	WSW	5	SSW	8	..	0	Ci	1- 6	Ci; StCu; Nb	7- 8	Dew early; heavy rain at 21h and at night
9	741.5	16.5	72	22.1	9.7	0.98	8.6	..	0	SSW	3	SE	1	SSE	2	Cu	8- 4	Ci; StCu	4- 6	Dew early
10	742.4	16.3	65	22.3	6.5	0.01	9.8	..	0	E	1	SW	6	S	4	CiSt; ACu	1- 3	ACu; StCu	6- 1	Dew early; clearing in evening
11	742.0	16.6	60	21.8	7.6	0.01	9.1	SSE	1	E	5	ESE	2	SSE	4	CiSt; Cu	1- 3	Ci; ASt; ACu	4- 6	Dew early
12	739.3	19.0	42	24.5	8.2		10.4	SE	2	SE	4	SW	8	SW	1	Ci; CiSt	1- 3	CiSt; ASt	4- 6	Fires in N during am
13	740.1	17.4	60	22.3	7.5	0.01	6.1	..	0	W	2	SW	8	SW	4	CiSt; Cu	1- 6	ASt; ACu; Cu	4- 6	Dew early
14	742.3	17.2	52	21.8	7.6		7.3	WSW	1	SSW	7	SSW	6	S	2	CiSt; Cu	4- 8	CiSt; ASt; StCu	4- 6	Dew early
15	744.1	18.0	55	25.1	7.1		9.5	SSE	1	ENE	7	E	2	SSE	6	CiSt; Ci; CiSt	1- 6	Ci; CiSt	7- 8	Dew early
16	737.5	20.1	55	28.1	9.5		9.1	SSE	2	ENE	1	SW	9	SW	3	CiCu; ACu; ASt; Cu	4- 6	CiSt; ASt	1- 3	Dew early; fires in distant E
17	734.8	20.0	54	21.2	10.4	T	1.8	NW	2	W	13	SW	14	SW	2	ASt; Cu; Nb	10- 7	ACu; Nb	7-10	Occasional light rains
18	739.6	15.7	57	18.4	6.7	0.11	5.1	W	1	WSW	10	SW	16	SSW	1	ASt; Cu; Nb	4- 9	StCu; Cu	7- 8	
19	746.0	13.6	61	16.8	9.3		4.0	S	1	NE	3	ESE	2	SSE	6	CiSt; ASt	8- 6	ACu	6- 1	
20	747.3	16.0	41	22.1	5.7		11.3	SE	4	W	9	E	8	SSE	8	CiSt	1- 3	CiSt	1- 3	Dew early
21	744.7	18.4	39	25.1	10.3		11.1	ESE	7	ENE	8	E	8	SE	10	CiSt; Cu	1- 3	CiSt; CiCu; Cu	1- 3	
22	741.4	18.9	51	25.1	7.8		10.9	SE	2	ESE	2	ESE	8	SSE	4	Ci; CiSt; ASt	1- 3	CiSt; CiCu	1- 3	Dew early
23	744.7	20.5	44	25.7	7.7		11.2	SE	2	NNE	6	E	8	SE	4	Ci; CiSt	1- 3	Ci; CiSt; CiCu	1- 3	
24	747.4	22.4	35	28.2	8.5		11.7	SSE	2	N	9	ENE	7	SSE	5		0		0	Dew early; fires to W and N
25	746.7	21.5	32	28.4	8.1		11.3	..	0	N	8	ENE	2	SSE	5		0	Ci; CiSt	1- 3	
26	742.9	24.0	31	29.7	8.5		11.5	SSE	2	NNE	4	SW	5	SSE	7	CiSt; ACu	1- 3	CiSt; ACu	1- 3	
27	741.8	17.2	72	22.7	11.7	T	6.0	SSE	1	SSE	6	S	12	SSE	4	CiSt; CiCu; Cu; CuNb	7-10	StCu; Cu; ASt	4- 6	Light showers near 8h5
28	744.9	14.8	54	20.5	7.8		10.9	SSE	3	E	8	E	5	SE	3	Ci; ASt; Cu	6- 4	Ci; ASt; Cu	3- 1	
29	742.1	22.8	28	27.2	6.5		11.0	..	0	NNW	4	WSW	8	SSE	4	Ci; ASt; Cu	1- 3	Ci; ASt; Cu	4- 6	Clearing in evening
30	741.1	19.0	53	25.7	9.0		11.4	SSW	3	SW	1	SW	4	SSW	2	ACu; ASt	1- 3	ACu; ASt	1- 3	Dew early
31	739.8	19.6	58	24.2	9.0		4.8	..	0	W	8	WSW	14	WSW	3	CiCu; StCu	7- 8	CiCu; ASt	7- 8	Dew early
SUM						1.42														
MEAN	742.2	18.3	53	23.0	8.1		8.2		1.8		6.2		7.2		3.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 331

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			194	190	199	222	224	218	218	222	210	194	166	150	136	105	(109	111	112)	116	128	142	151	162	173	200	169	0
2	✓	✓	✓	209	207	214	236	250	261	276	236	195	190	177	166	171	167	164	163	153	152	162	177	220	248	264	274	206	0
3	✓			297	310	350	353	344	327	311	≷226	100≶	119	120	125	122	122	124	121	126	128	131	151	156	150	153	167	193	1
4	✓			182	176	174	176	177	182	188	178	166	162	152	152	148	150	150	150	150	148	150	153	162	162	164	163	163	0
5	✓	✓	✓	164	152	151	153	157	148	140	141	150	148	150	148	150	151	151	151	155	152	153	158	162	192	195	212	158	0
6	✓	✓	✓	225	225	261	246	261	254	269	236	187	161	137	132	137	131	140	143	138	126	137	152	146	142	147	151	178	0
7	✓			140	126	130	127	119	131	150	146	212	213	190	169	167	(157)	146	131	137	141	150	156	159	171	195	190	156	0
8				207	223	233	250	274	286	311	266	188	162	152	141	146	140	142	143	141	142	157	178	≷203	187	52	69≶		0
9	✓			≷140	135	141	155≶	147	164	187	174	166	156	157	159	153	152	152	151	145	127	138	146	142	146	150	157	152	1
10	✓	✓	✓	101	102	100	107	⌈209⌋	203	190	168	159	158	152	146	138	132	128	128	131	137	140	146	145	151	157	171	156	0
11				—	—	—	—	—	—	—	—	159	150	151	150	146	141	124	125	140	⌈116	79	112⌋	125	124	115	121		0
12	✓	✓		126	115	124	128	136	150	157	(161)	159	153	153	155	147	148	148	143	130	124	142	147	147	162	174	174	146	1
13	✓	✓	✓	188	197	190	192	203	212	⌈192⌋	212	172	150	152	146	142	142	142	140	136	137	140	145	146	142	143	150	163	0
14	✓	✓	✓	157	158	167	182	187	174	174	158	150	150	148	146	145	(150)	150	148	143	142	150	163	164	167	168	179	159	0
15	✓	✓	✓	176	176	179	179	174	167	174	188	199	198	178	174	163	155	150	138	133	124	133	145	138	126	130	140	160	0
16	✓	✓	✓	143	148	150	151	155	152	150	162	192	224	204	186	193	173	150	142	140	127	133	137	138	140	148	159	158	0
17	✓			≷174≶	171	176	179	178	187	193	171	138	≷112	106	100	130	136≶	137	128	126	136	138	140	143	140	130	133	146	1
18				130	143	162	167	177	179	202	169	150	142	140	138	140	141	141	146	—	—	—	—	—	158	155	155		0
19				166	153	151	155	171	195	224	233	205	194	174	151	150	147	145	152	148	145	156	157	—	—	—	—		0
20				—	—	—	—	—	—	—	—	—	213	151	141	143	143	141	141	136	128	137	138	142	128	130	142		0
21	✓			152	178	202	217	217	224	228	234	236	231	210	173	142	(152)	142	136	136	141	127	126	145	141	138	⌈117⌋	173	0
22	✓			⌈114	116	114	112	110	112	137⌋	193	202	184	153	150	137	153	150	130	119	142	153	152	146	138	131	137	141	0
23				—	—	—	—	—	—	—	—	212	193	177	166	148	147	150	162	163	161	163	152	146	⌈124	124	125⌋		0
24	✓	✓	✓	⌈115	115	115	121	137⌋	174	239	238	203	169	166	163	158	155	152	150	150	152	152	148	⌈142	121	121	135⌋	154	0
25	✓	✓	✓	⌈156⌋	197	225	225	235	252	266	226	177	171	164	166	164	162	151	143	143	133	135	150	153	161	156	151	178	0
26	✓	✓		151	150	141	140	141	153	167	203	221	210	192	167	159	153	146	138	130	207	⌈127	90	114	120	116	105⌋	152	0
27	✓	✓		⌈116	124	136	127⌋	≷147	162	158≶	138	135	131	130	131	137	131	128	128	(130)	130	131	138	138	143	143	142	136	0
28	✓	✓		143	148	⌈141	130	136	150⌋	171	174	152	140	128	120	104	101	101	109	106	105	110	120	⌈116	91	91	94⌋	124	0
29				⌈ 88	95	105	112⌋	126	159	229	272	261	239	192	181	184	173	166	163	159	151	128	⌈115	112	117⌋	—	—		0
30				—	—	—	—	—	—	—	—	145	136	137	136	130	130	128	130	132	132	133	137	148	153	172	174		0
31	✓			189	214	241	236	264	285	291	265	⌈169⌋	145	138	136	143	136	131	137	136	140	138	150	148	147	156	155	179	0
MEANS * 23 DAYS				166	169	178	181	187	193	201	193	176	168	158	150	147	144	141	137	135	138	139	145	149	151	154	159	161	
MEANS † 14 DAYS				159	162	169	170	181	187	194	189	175	168	159	153	151	146	143	140	137	139	139	144	148	150	154	160	159	
MEANS ‡ 10 DAYS				169	174	182	185	197	200	207	196	178	172	163	157	156	152	148	145	142	138	144	152	155	159	163	172	167	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1930

DAY	*	†	‡	0-	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			149	153	190	199	188	197	220	228	235	223	192	173	149	129	119	116	118	105	103	116	112	127	129	167	160	0
2	✓	✓	✓	178	170	178	194	218	230	242	216	196	193	181	169	173	170	166	161	154	140	148	144	188	208	235	256	188	0
3	✓			277	293	326	335	323	312	294	260	189	107	108	119	122	120	119	121	117	117	119	112	117	117	119	146	183	1
4	✓			154	149	139	138	138	147	170	167	151	150	150	153	153	148	144	140	138	137	138	146	154	152	149	155	148	0
5	✓	✓	✓	147	137	126	125	133	125	117	121	137	132	144	137	139	138	138	144	138	135	126	117	126	160	167	173	137	0
6	✓	✓	✓	190	195	223	219	226	229	254	204	190	171	138	129	137	123	129	137	126	114	119	129	132	118	119	123	161	0
7	✓			117	99	93	109	87	105	118	123	194	204	199	185	180	169	(127)	125	128	129	131	137	134	129	140	147	138	0
8				173	182	196	226	263	275	287	251	196	157	154	148	153	150	141	143	138	137	140	165	177	160	—	172		0
9	✓			102	105	94	88	83	94	140	162	146	148	150	148	149	142	144	139	128	116	119	121	119	115	107	99	123	1
10	✓	✓	✓	113	116	124	131	[158	166]	158	136	143	134	132	135	132	128	125	120	120	121	116	112	114	118	125	141	130	0
11				141	127	140	137	[192	84	129]	175	160	158	157	149	139	134	117	117	124	[105	72	96]	102	99	98	102		0
12	✓	✓		102	85	93	104	102	137	148	(151)	154	155	149	151	147	148	148	140	126	116	126	128	119	126	138	145	131	1
13	✓	✓	✓	160	172	176	174	181	202	[149]	187	154	147	144	139	137	141	137	132	121	118	125	126	125	118	109	129	146	0
14	✓	✓	✓	129	123	129	151	149	140	146	144	136	141	143	147	140	146	(141)	136	132	131	126	123	118	129	143	138	137	0
15	✓	✓	✓	143	138	154	157	149	140	155	199	209	217	192	180	165	153	143	126	126	118	125	134	127	116	116	126	150	0
16	✓	✓	✓	123	128	125	114	124	127	126	142	178	217	218	192	209	187	158	147	138	120	120	117	116	115	119	119	145	0
17	✓			105	141	147	153	164	180	180	175	149	132	126	129	141	143	128	120	118	110	118	125	121	119	108	90	134	1
18				92	98	129	135	146	158	192	181	149	140	146	—	—	—	—	—	—	—	—	—	—	—	[92]	137		0
19				121	[94	82	90	105	157]	184	217	198	178	158	144	134	137	128	134	129	126	137	132	125	120	[95	82]		0
20				[76	91	113	127]	148	170	190	247	251	216	161	151	159	157	149	146	137	129	126	135	138	121	124	126		0
21	✓			131	158	189	206	211	219	218	255	263	269	245	198	159	161	(147)	143	141	146	127	126	146	133	117	[100]	175	0
22	✓			[91	76	70	75	70	71	108]	178	201	197	171	141	135	159	151	133	119	147	151	139	128	123	117	103	127	0
23				94	80	83	116	136	164	214	231	205	199	189	181	166	161	168	171	168	161	149	136	136	[106	96	87]		0
24	✓	✓	✓	[85	85	91	83	118	119]	202	225	206	176	178	179	182	170	168	164	159	159	141	132	[126	98	94	107]	144	0
25	✓	✓	✓	[107]	169	213	208	222	224	226	218	194	180	174	173	170	164	149	139	137	118	117	146	146	147	142	128	167	0
26	✓	✓		118	119	116	96	108	136	146	201	219	220	207	184	170	161	151	141	128	[125	112	77	95	99	95	88]	138	0
27	✓	✓		[58	87	87	72]	94	94	109	108	131	127	133	136	133	133	126	120	125	114	113	108	110	115	114	93	110	0
28	✓	✓		109	125	[107	96	93	116]	158	181	159	150	138	124	103	95	93	97	96	95	93	95	[96	73	69	62]	109	0
29				[60	61	71	95]	102	139	203	261	274	266	218	210	204	189	180	172	162	147	126	[102	93	68	92	96]		0
30				[94	97]	137	149	137	125	118	106	138	137	148	147	144	139	135	135	139	124	118	115	124	132	147	158		0
31	✓			170	191	214	235	247	274	291	281	[183]	149	146	146	145	139	138	139	136	139	127	127	135	128	138	131	173	0
MEANS * 23 DAYS				133	140	148	151	156	165	177	185	179	171	163	155	151	146	139	134	129	125	123	123	126	125	126	129	146	
MEANS † 14 DAYS				126	132	139	137	148	156	167	174	172	169	162	155	153	147	141	136	130	123	122	121	124	124	127	131	142	
MEANS ‡ 10 DAYS				138	143	154	156	168	170	178	179	174	171	164	158	158	152	145	141	135	127	126	128	132	133	137	144	150	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 333

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				118	104	105	—	—	—	94	73	69	75	73	76	71	73	80	78	84	86	78	83	80	—	—	—		0
2				—	66	75	79	62	46	46	61	80	79	77	65	66	66	69	71	83	80	83	91	101	110	132	122		0
3	✓	✓	✓	97	119	111	118	102	83	87	89	91	88	84	84	87	93	96	96	97	94	100	106	108	111	109	112	98	0
4	✓	✓	✓	107	103	101	102	90	80	76	68	57	60	51	54	59	69	78	77	78	77	84	87	101	104	114	107	83	0
5	✓	✓	✓	83	112	100	93	84	66	75	71	77	74	77	76	87	76	76	78	76	78	83	83	87	104	102	109	84	0
6	✓	✓		121	114	102	190	153	180	121	63	44	44	53	53	52	58	59	61	66	62	69	66	73	79	84	94	88	0
7	✓	✓	✓	106	105	97	89	79	70	69	69	56	53	45	49	67	55	79	92	83	84	83	98	90	71	71	94	77	0
8	✓	✓	✓	94	98	93	89	71	67	70	70	61	71	66	66	61	63	69	71	80	73	77	97	106	107	113	122	81	0
9	✓	✓	✓	131	131	139	144	126	131	98	61	49	50	60	66	69	67	59	69	63	62	66	70	82	97	95	94	87	0
10	✓	✓	✓	96	87	90	90	84	80	76	61	52	49	50	53	53	58	56	55	57	60	63	65	67	71	68	80	68	0
11	✓	✓	✓	87	92	114	121	118	94	72	64	62	67	62	60	60	60	61	63	69	74	80	95	114	139	138	142	88	0
12	✓	✓		132	106	83	66	68	N 48	57	N 40	53	49	48	48	47	48	54	60	58	57	54	52	55	56	57	59	61	1
13				62	64	54	57	51	52	40	56	55	69	65	74	84	95	101	100	98	104	118	111	118	140	—	—		0
14				—	—	—	—	—	—	76	78	89	93	93	108	109	119	123	121	110	113	114	119	126	101	91	97		0
15	✓	✓	✓	87	80	93	91	83	92	114	103	83	100	97	113	103	110	100	83	92	104	89	102	119	106	97	94	97	0
16				80	—	—	—	—	—	—	—	86	63	58	73	78	65	75	94	126	79	109	104	80	91	95	88		0
17				80	93	91	—	—	—	78	83	60	74	80	87	95	101	98	100	98	103	101	97	99	97	84	80		0
18	✓			83	87	82	90	79	78	79	78	77	63	66	75	75	86	95	99	97	117	119	128	114	130	134	123	94	0
19	✓	✓	✓	118	111	109	91	73	90	98	100	83	100	91	91	97	105	96	90	97	104	104	125	126	121	128	118	103	0
20	✓			117	127	133	159	130	104	122	89	88	80	83	79	87	82	84	97	104	101	105	97	96	101	113	135	105	0
21	✓			143	139	132	100	75	75	68	67	69	61	69	71	85	83	90	96	88	97	91	101	103	101	88	70	90	0
22	✓	✓	✓	64	54	56	55	52	60	69	76	84	74	73	75	76	75	73	83	78	73	70	65	68	69	67	65	69	0
23	✓	✓	✓	65	68	66	61	56	56	59	71	76	73	78	84	80	80	83	84	90	92	84	79	83	87	81	78	76	0
24				71	71	—	—	—	—	—	74	90	91	84	91	91	97	97	102	102	97	96	102	96	91	109	96		0
25	✓	✓		69	67	60	62	56	49	53	79	78	57	N 49	82	87	88	82	N 69	52	83	89	94	108	105	91	94	75	1
26	✓	✓	✓	70	78	77	78	75	83	77	87	92	56	67	73	87	88	86	83	87	90	88	97	106	96	91	90	83	0
27	✓			70	92	84	92	100	115	106	106	105	101	97	95	116	127	144	144	132	128	130	111	116	123	148	168	115	0
28	✓			178	166	177	169	175	139	89	62	60	60	66	75	88	88	85	88	84	83	91	79	118	134	123	138	109	0
29	✓	✓	✓	162	159	124	97	66	61	49	52	70	79	83	84	90	92	95	94	97	89	87	73	79	79	69	66	87	0
30	✓	✓	✓	75	65	73	57	50	56	56	66	70	65	70	86	82	102	89	93	88	91	136	138	103	87	104	114	84	0
31																													
MEANS * 23 DAYS				102	103	102	100	89	85	80	74	71	68	69	74	78	81	82	84	83	86	89	92	97	99	99	103	87	
MEANS † 18 DAYS				98	97	97	94	83	80	76	72	69	67	67	72	75	77	77	78	78	80	84	88	93	94	93	96	83	
MEANS ‡ 15 DAYS				96	97	96	92	81	78	76	74	71	71	70	74	77	80	80	81	82	83	86	92	96	97	96	99	84	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER }{=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 334

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	742.6	18.7	63	24.8	14.0	0.11	10.7	SSW	2	SE	5	SW	3	SSW	1	ACu; Cu; FrCu	1- 3	ACu; Cu	1- 3	Heavy dew early; rain in early hours
2	742.3	17.9	52	21.8	8.5		3.8	..	0	SW	5	SW	15	SW	6	StCu	6- 8	ACu; StCu	7- 8	Dew early
3	747.2	16.4	48	22.1	8.3	0.02	10.8	S	7	SE	12	SSE	6	SSE	6	ACu; ASt	1- 3	CiSt	1- 3	Shower in early hours
4	745.4	16.8	47	23.9	6.2		5.1	SE	2	ENE	4	SW	3	SSE	7	Ci; CiCu; CiSt	4- 8	Ci; CiCu; CiSt; ASt	7- 8	
5	743.2	18.5	58	23.7	8.2		11.1	S	1	SSE	9	SSE	8	SSE	5	ASt; StCu; CiSt	3- 8	CiSt; ASt; StCu	3- 8	
6	742.1	21.6	36	30.7	5.5		11.7	SSE	3	NNE	4	W	6	S	5		0	Ci; CiSt	1- 3	
7	743.8	17.5	67	20.0	9.9	T	3.9	SSW	1	SW	7	S	15	SSE	6	CiSt; ACu; Cu; Nb	7-10	Cu; StCu	6- 4	Dew early; rain early; clearing in evening
8	749.5	16.2	41	25.0	4.1		11.8	SE	3	E	10	E	6	SE	6		0		0	
9	746.1	24.3	25	31.4	6.4		11.8	SSE	3	E	1	SW	2	SE	5	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Dew early
10	743.9	22.6	41	30.6	9.7		12.5	SE	4	ESE	5	SSE	7	SSE	10	CiSt	1- 3	CiSt	1- 3	
11	745.0	20.5	52	31.2	14.3		8.5	SE	6	E	12	ESE	8	SE	8	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Dew early
12	742.9	21.4	40	33.6	14.2		8.8	ESE	12	E	12	E	14	E	8	Ci; CiCu; ACu; ASt	4- 6	CiSt; CiCu; ASt	3- 1	
13	737.8	30.1	23	31.2	18.3		11.0	ENE	6	WNW	14	WSW	14	SSW	8	CiCu	1- 3		0	
14	741.6	17.9	62	24.8	14.5		5.1	S	3	SSW	6	SSW	8	SSW	1	ASt; Cu	7-10	CiCu; CiSt; ASt; Cu	4- 6	
15	742.0	18.6	60	21.8	9.8	0.02	6.6	..	0	SSW	13	SSW	15	SSW	4	Cu; FrCu; Nb	10- 7	ASt; FrCu; Nb	6- 4	Rain in early hours and at night
16	743.0	17.9	62	20.6	13.5	0.02	3.2	..	0	SSW	16	SSW	12	S	4	CiSt; Cu; FrCu; Nb	10- 7	CiSt; Cu; FrCu; Nb	7-10	Occasional light showers
17	743.3	17.0	70	26.6	12.1	T	8.3	..	0	E	2	S	1	SSE	7	Cu; StCu	10- 7	ACu; ASt; Cu	6- 1	Lightning in NE at 21h
18	741.4	21.7	58	29.1	12.0		9.9	SSE	3	SE	5	S	6	SSE	8	CiSt	4- 6	CiSt; ASt	7- 8	Lightning in NE at 20h5
19	741.2	19.6	60	25.6	11.8		9.0	SSE	5	SSE	10	SSE	13	SSE	8	ASt; StCu	7-10	ASt; Ci; CiSt	6- 1	
20	743.5	21.3	44	28.3	11.7		12.5	SE	6	E	11	ESE	6	SE	8	CiSt; CiCu	1- 3	CiSt; CiCu; ACu	1- 3	Dew early
21	742.6	24.4	40	33.1	11.7		11.1	SE	3	ENE	9	NE	5	SE	4	ACu; StCu	1- 3	ACu; StCu	1- 3	
22	741.1	27.6	30	33.8	16.2		12.3	E	4	NNE	11	NE	..	ESE	7		0	Ci; ACu	1- 3	Fires in distant NW in pm
23	737.6	30.6	23	36.0	20.1		11.2	ESE	7	NNW	10	W	5	SSE	1	CiSt; CiCu; ACu	1- 3	CiSt; CiCu; ACu	4- 6	Lightning at night
24	735.4	22.7	63	24.4	16.1		10.1	SSW	1	SW	7	SW	12	SW	8	ASt; StCu	1- 3	ASt	4- 8	Air dusty
25	735.1	20.2	61	23.2	10.0		3.8	W	1	W	13	SW	16	SW	3	ASt; StCu; Nb	6-10	ASt; Cu; FrCu; Nb	6-10	Occasional showers
26	740.0	16.3	68	20.9	10.4	0.04	3.7	SW	2	SSW	9	SSW	12	S	3	ASt; Cu; StCu; Nb	7-10	ASt; Cu; StCu	4- 6	Few drops rain early
27	746.1	17.3	47	25.3	7.7	T	12.4	SSE	1	E	9	E	6	SE	10	ASt	1- 3		0	
28	746.4	24.2	26	32.2	8.3		12.5	SE	3	ENE	8	ENE	6	..	4		0		0	Dew early
29	745.5	28.6	20	34.4	12.5		12.5	SE	3	NNE	9	NE	8	E	3		0		0	Fires in pm in distant NW
30	743.1	30.1	16	35.4	17.3		11.9	..	0	N	12	NE	2	SSE	8		0	CiSt; Cu	1- 3	Fires in distant NW
31																				
SUM						0.21														
MEAN	742.7	21.3	47	27.2	11.4		9.3		3.1		8.7		8.3		5.7					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 335

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			144	≷138	139	120	112	115	128≶	126	126	128	128	131	131	128	129	131	128	120	130	140	148	159	182	177	135	0
2	✓			196	219	222	207	228	260	282	209	144	139	138	131	120	125	124	126	128	125	128	130	129	130	126	125	162	0
3	✓	✓	✓	129	139	138	135	143	145	153	142	142	138	139	126	117	105	102	106	121	129	138	138	140	142	151	151	134	0
4	✓	✓	✓	145	144	151	153	159	169	176	185	208	207	191	170	177	(172)	155	156	158	156	155	140	115	115	110	123	158	0
5	✓	✓	✓	142	136	159	173	167	164	172	156	150	150	146	136	119	114	133	138	140	139	139	139	144	136	131	120	143	0
6	✓	✓		117	⌈101	83	73	78	75	101⌋	167	221	(214)	193	173	167	158	153	151	151	148	149	151	160	154	149	140	143	0
7	✓	✓	✓	142	145	156	156	149	150	146	143	129	134	131	131	126	125	123	129	126	131	133	103	131	150	153	154	137	0
8	✓	✓	✓	156	156	158	164	173	182	194	191	168	176	168	148	119	117	114	121	130	133	140	⌈120	114	115	115	110⌋	145	0
9	✓	✓	✓	⌈110	111	103	103	105	106	139⌋	207	266	241	207	189	180	176	173	165	154	155	153	140	133	126	125	126	154	0
10	✓	✓	✓	124	128	125	121	128	130	142	160	177	180	176	179	177	164	153	156	144	136	135	139	138	129	130	119	145	0
11	✓	✓	✓	117	116	103	97	123	125	165	179	189	185	169	165	156	(150)	145	145	138	123	125	123	⌈107	94	93	101⌋	135	0
12	✓	✓		⌈114	140	178⌋	201	204	208	216	217	221	222	222	222	207	201	189	178	161	155	158	160	168	189	196	211	189	1
13	✓			232	241	240	218	214	217	235	221	198	169	153	139	130	123	119	112	105	110	112	106	103	110	102	103	159	0
14	✓			103	106	112	107	109	119	119	119	115	(120)	126	128	126	125	128	128	129	129	126	138	139	151	165	162	126	0
15	✓	✓	✓	169	181	180	169	193	≷191≶	131	126	120	120	126	129	126	128	123	119	119	115	123	128	129	130	129	128	139	0
16	✓			131	150	151	129	135	129	129	126	130	133	133	131	134	131	135	143	151	144	145	148	140	142	149	155	138	0
17				—	—	—	—	—	—	—	—	—	—	165	162	156	151	145	146	144	126	142	150	149	151	153	151		0
18				145	142	139	136	143	165	168	177	180	178	160	142	135	—	111	129	126	—	—	—	142	143	144	145		0
19	✓	✓	✓	143	146	154	165	162	164	156	140	139	(142	144)	143	146	144	138	135	136	135	133	128	119	126	131	129	142	0
20				117	116	112	114	124	156	196	(191)	—	—	148	146	133	120	112	102	88	87	97	125	128	133	—	—		0
21				—	—	—	—	—	—	228	241	247	—	(306)	253	237	227	230	230	228	217	206	139	217	228	241	280		0
22	✓	✓	✓	316	361	388	437	445	366	320	280	(236	193)	148	144	145	144	145	142	138	133	133	151	162	181	185	217	230	0
23	✓	✓	✓	228	224	228	242	260	281	272	241	193	170	159	148	144	142	145	148	151	148	153	144	145	149	164	154	185	0
24	✓			159	156	154	⌈146⌋	107	94	101	101	91	114	105	97	102	114	112	116	115	109	106	109	110	111	116	120	115	0
25	✓	✓		133	153	165	179	199	218	219	153	135	117	119	115	112	(105)	112	106	110	116	119	116	130	140	133	142	139	1
26	✓	✓	✓	138	144	146	156	162	153	167	156	130	126	133	131	134	135	138	136	138	138	142	142	144	150	155	173	144	0
27				—	—	—	—	—	—	—	—	158	156	155	142	126	117	100	87	88	94	93	103	117	126	⌈117	114⌋		0
28				⌈112	112	111	109	123⌋	144	230	313	330	308	279	232	208	203	194	193	185	179	169	176	⌈134	115	119	116⌋		0
29	✓	✓	✓	⌈116	119	143⌋	181	228	266	308	306	233	193	170	164	162	165	155	154	146	146	150	158	168	180	212	245	186	0
30	✓	✓	✓	246	265	253	265	284	279	256	206	176	172	156	142	140	140	139	138	135	⌈114	62	77	112⌋	145	135	128	174	0
31																													
MEANS * 24 DAYS				156	163	168	171	178	179	184	177	168	162	153	146	142	139	137	137	136	133	133	132	134	140	143	146	152	
MEANS † 18 DAYS				155	162	167	176	187	187	191	186	180	171	161	153	147	144	141	140	139	136	136	133	137	142	144	148	157	
MEANS ‡ 15 DAYS				161	168	172	181	192	191	193	188	177	168	158	150	145	141	139	139	138	135	134	131	133	138	141	145	157	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 336

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			112	117	96	82	85	86	107	119	124	123	127	130	128	131	133	132	128	119	117	111	115	126	137	149	118	0
2	✓			157	212	188	181	214	227	271	198	151	141	140	141	127	122	128	135	127	119	118	113	111	110	99	99	151	0
3	✓	✓	✓	112	110	115	107	96	93	126	138	140	143	139	134	126	110	105	110	126	131	123	123	122	121	122	130	121	0
4	✓	✓	✓	116	112	121	122	137	152	160	191	230	217	208	184	182	171	(160)	159	157	158	151	134	107	110	99	94	151	0
5	✓	✓	✓	100	104	125	148	140	140	144	158	155	161	162	154	133	114	143	143	143	134	122	121	125	121	120	111	134	0
6	✓	✓		97	[83	63	51	63	57	89]	173	229	(233)	195	183	179	170	169	161	152	144	142	142	150	138	133	119	138	0
7	✓	✓	✓	112	107	118	131	118	121	133	128	121	132	132	134	128	124	123	121	130	120	118	88	112	113	124	110	121	0
8	✓	✓	✓	119	111	112	130	154	173	192	205	185	192	192	182	140	123	118	123	132	131	124	[107	107	98	96	91]	139	0
9	✓	✓	✓	[88	84	84	69	77	83	118]	213	268	256	222	203	188	185	182	174	157	152	149	141	130	114	110	106	148	0
10	✓	✓	✓	106	105	104	118	114	121	135	163	179	191	179	182	191	172	165	168	154	141	131	136	138	131	119	110	144	0
11	✓	✓	✓	108	107	94	94	89	114	160	204	215	205	194	187	172	161	(159)	157	141	125	121	117	[99	79	77	74]	136	0
12	✓	✓		[88	122	173]	212	218	227	226	243	248	256	262	263	240	231	217	203	183	182	174	181	183	202	215	233	208	1
13	✓			258	261	261	217	222	211	234	232	224	188	170	151	140	133	132	121	108	110	105	100	93	88	76	74	163	0
14	✓			82	77	65	72	72	83	96	99	105	110	120	123	123	123	128	121	122	113	108	[99	86	113]	132	123	104	0
15	✓	✓	✓	146	154	144	152	168	174	118	118	120	122	131	131	134	130	123	121	117	110	118	107	104	99	97	97	126	0
16	✓			98	120	122	107	99	107	112	121	127	132	132	132	133	128	130	131	127	123	112	111	112	101	88	111	117	0
17				118	114	119	148	123	154	163	141	155	161	159	160	155	143	133	128	131	118	122	132	137	134	136	138		0
18				121	123	120	111	123	141	160	178	182	182	165	141	133	133	(105)	120	121	[94]	111	104	121	119	111	101		0
19	✓	✓	✓	107	108	119	118	120	132	142	133	132	(136	139)	140	144	142	139	134	131	123	119	112	100	105	103	108	124	0
20				100	94	85	84	99	133	198	202	181	173	172	165	141	122	108	94	79	84	94	117	121	122	[105	85]		0
21				[76	82	84	124]	179	213	241	253	264	252	224	177	160	160	154	151	146	136	132	124	133	140	143	162		0
22	✓	✓	✓	802	246	262	300	306	252	227	212	181	170	155	150	152	149	146	140	133	132	128	128	143	155	182	205	186	0
23	✓	✓	✓	206	215	223	225	245	269	266	235	193	173	155	145	140	139	134	149	144	144	149	143	128	133	158	150	178	0
24	✓			151	145	141	[149]	99	96	96	91	98	115	108	99	105	108	112	112	(111)	106	108	100	106	104	106	108	111	0
25	✓	✓		122	143	167	178	215	241	246	171	153	131	(132	126)	121	111	(118)	108	117	119	110	110	101	118	131	122	142	1
26	✓	✓	✓	134	138	140	154	165	150	181	161	139	134	148	144	150	144	144	143	138	131	133	124	111	108	122	136	140	0
27				181	151	161	150	138	121	152	171	181	186	191	176	148	131	105	89	96	97	94	113	128	125	[113	100]		0
28				[90]	—	—	—	—	—	—	—	371	354	321	270	249	240	232	215	204	202	179	152	[127	110	111	106]		0
29	✓	✓	✓	[92	94	127]	173	227	264	333	336	264	209	195	193	188	185	173	165	151	146	148	149	152	152	186	235	189	0
30	✓	✓	✓	242	262	239	266	274	272	264	209	180	185	168	142	141	138	141	135	128	[106	50	62	99]	142	133	118	171	0
31																													
MEANS * 24 DAYS				132	139	142	148	155	160	174	177	173	169	163	156	150	144	143	140	136	130	124	119	118	120	124	126	144	
MEANS † 18 DAYS				128	134	141	153	163	169	181	188	185	180	173	165	158	150	148	145	141	135	128	124	123	124	129	130	150	
MEANS ‡ 15 DAYS				133	137	142	154	162	167	180	187	180	175	168	160	154	146	144	143	139	132	126	119	118	119	123	125	147	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 337

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			101	97	102	71	61	64	63	64	62	51	70	74	73	74	80	87	79	87	85	87	90	93	108	105	80	0
2	✓			[104]	82	66	87	60	56	62	80	73	68	80	89	99	101	[113	119	114	116	132	132	135	124	123	92]	96	0
3				—	—	—	—	—	—	—	68	77	80	74	76	74	79	93	92	84	88	97	99	106	105	80	—		0
4				—	—	—	—	—	—	87	92	80	55	74	87	87	93	100	104	100	112	119	117	113	104	96	94		0
5	✓			101	98	87	88	86	73	82	90	88	90	96	104	111	119	118	123	126	119	121	133	131	135	135	135	108	0
6	✓	✓	✓	139	139	131	114	101	95	88	82	80	80	88	92	97	123	106	101	[121	130]	113	120	[159]	131	135	139	113	0
7	✓	✓		141	141	131	132	127	118	110	103	101	89	88	97	110	117	119	121	117	123	131	127	127	130	[148	180]	122	0
8	✓			[209	215	177	122]	97	82	78	72	69	66	65	71	75	75	74	80	76	82	79	84	92	87	74	59	94	0
9				61	66	56	59	49	40	39	40	41	52	66	N 45	Z	Z	Z	Z+	236	101	92	111	111	108	99	104		1
10	✓			98	86	82	119	105	100	92	105	99	91	99	113	104	101	104	107	117	111	117	131	140	141	139	148	110	0
11				149	114	108	100	87	78	70	70	68	69	61	61	57	53	74	106	101	79	Z	Z+	92	79	83	92		1
12	✓	✓		108	102	82	78	73	72	60	42	N 9	56	71	73	71	72	90	83	80	56	108	[144	189]	110	113	113	86	1
13	✓			108	105	104	108	100	98	83	49	44	52	57	64	66	79	84	86	86	84	86	87	88	87	[121	179]	88	0
14	✓	✓		[166	139	105]	73	61	52	45	51	55	58	61	60	62	67	69	74	78	79	101	103	118	116	118	120	85	0
15	✓			125	124	121	121	126	142	125	109	90	83	88	88	95	104	109	108	110	109	121	142	160	134	152	151	118	0
16	✓			154	146	143	139	138	127	104	80	78	69	69	71	78	78	75	82	83	90	105	126	123	118	114	114	104	0
17	✓	✓	✓	91	72	56	61	53	54	53	51	55	55	61	67	70	84	83	76	80	90	99	108	109	104	100	100	76	0
18	✓	✓	✓	104	99	82	110	107	73	108	95	84	81	88	95	94	101	116	135	130	139	157	152	148	144	135	138	113	0
19	✓			128	139	126	120	123	116	109	117	101	100	97	88	109	98	101	110	114	119	111	125	142	137	141	122	116	0
20	✓	✓	✓	128	123	125	106	107	71	88	101	101	104	92	103	112	99	116	116	109	109	126	123	133	131	132	108	111	0
21	✓	✓	✓	94	95	92	84	95	69	102	113	111	94	105	98	104	108	114	120	128	128	127	119	128	126	118	118	108	0
22	✓			100	96	87	87	88	77	80	87	84	83	82	92	96	104	104	101	105	104	106	114	133	125	109	97	98	0
23	✓			83	69	67	62	54	49	65	89	78	87	87	90	88	89	93	94	93	102	107	122	135	137	145	122	92	0
24	✓	✓	✓	114	99	[86]	95	106	101	83	85	85	78	82	90	91	88	88	83	91	93	103	109	113	104	98	101	94	0
25	✓	✓	✓	93	79	53	49	55	56	58	58	56	61	60	62	72	69	66	70	66	62	64	60	58	62	56	54	62	0
26	✓	✓	✓	59	48	48	47	43	52	60	62	60	62	69	61	52	48	48	46	49	52	61	62	65	55	53	62	55	0
27	✓			48	44	41	36	30	30	40	43	46	43	[39	36]	47	52	55	61	67	73	85	92	93	98	66	39	54	0
28				80	110	118	—	—	—	80	88	97	101	102	100	88	91	87	87	90	94	101	101	104	84	96	112		0
29	✓	✓	✓	119	118	118	108	97	90	75	65	67	62	62	65	61	62	60	60	62	71	[93	97	89]	96	101	104	83	0
30	✓			111	119	135	134	138	124	101	72	59	57	61	69	65	71	75	[80	87	95	114	144	163	146	157	141]	105	0
31	✓			131	126	146	148	135	118	104	83	77	66	68	66	68	72	80	84	[87	96	107	110	119	136	134	143	104	0
MEANS * 26 DAYS				114	108	100	96	91	83	81	79	74	73	76	80	83	87	90	93	94	97	106	114	122	116	116	115	96	
MEANS † 12 DAYS				113	104	92	88	85	75	78	76	72	73	77	80	83	86	90	90	93	94	107	110	120	109	109	111	92	
MEANS ‡ 9 DAYS				105	97	88	86	85	73	80	79	78	75	79	81	84	87	89	90	93	97	105	106	111	106	103	103	91	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 338

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1930

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	738.7	30.6	22	36.1	14.8		11.9	SE	3	NNW	13	NE	5	SSE	4	CiCu; ACu	1- 3	ASt	1- 3	
2	736.8	31.4	25	32.2	14.3		10.0	..	0	NW	7	SSW	15	S	6	Ci; CiCu	4- 6	ACu; ASt	4- 6	
3	737.1	21.2	55	24.8	11.0		4.9	..	0	WSW	8	WSW	11	WSW	4	CiSt; Cu; StCu	4-10	ASt; StCu	10	
4	737.8	15.7	86	21.9	12.9	0.05	5.2	WNW	2	SW	13	SSW	14	SSW	4	StCu; Cu; Nb	10	ASt; FrCu; StCu	7- 9	Rain in early hours and at intervals through day
5	743.3	17.5	43	23.1	11.5		10.6	SSW	1	SSE	2	S	6	SSE	4	ASt	8- 4	ASt	3- 1	Lightning in NE in evening
6	743.9	21.4	37	31.4	7.7		12.7	SE	5	ENE	5	ENE	2	SSE	7		0		0	
7	742.8	20.8	52	28.8	11.5		12.6	SE	3	SE	11	SE	10	SE	8	Ci; CiSt; CiCu	1- 3	Ci; CiSt; CiCu	1- 3	Dew early
8	741.3	23.5	45	36.6	13.5		13.4	ENE	6	ENE	10	E	6	SE	5	Ci; CiSt; CiCu	1- 3	Ci; CiSt; CiCu	1- 3	Dew early; fires in NW in pm; lightning in NE after 18h
9	737.3	32.6	27	40.1	22.7		4.6	ESE	5	ENE	1	SW	13	N	6	CiCu; CiSt	8- 6	ACu; StCu; CuNb	7- 8	Threatening 12 -15.5; thunderstorms in E; clearing in eve.
10	738.1	23.3	64	29.0	17.9		10.6	WNW	2	SW	9	S	6	SSE	6	Cu; FrCu	8- 4	ACu; FrCu	4- 6	Mist early; fire nearby in E at 16h
11	738.3	23.5	52	33.4	15.7		10.3	E	10	E	11	ESE	6	E	3	CiSt; CiCu; ASt	1- 3	ASt; StCu; Nb	4- 8	Air dusty at 14h5; thundershowers after 18h
12	735.8	20.9	77	27.8	16.5	0.03	3.9	..	0	NNW	3	W	12	ESE	..	ASt; Cu; Nb	10- 4	Cu; Nb	4-10	
13	738.1	22.0	67	29.0	17.9		3.9	SSE	..	..	..	..	..	..	..	Cu; FrCu	10- 7	Cu; FrCu	6- 1	
14	737.1	27.6	50	36.5	16.3		11.6	..	..	..	..	..	..	..	..	Cu	1- 3	Cu	1- 3	Clear in evening
15	736.7	24.2	61	28.7	17.0		12.0	..	..	..	..	SSW	13	SSW	10	Cu	1- 3	Cu; ASt	4- 8	Clearing in late evening; dew at 21h
16	738.9	24.3	57	32.3	16.2		11.2	S	2	ESE	7	ESE	6	S	7	Cu; StCu	1- 3	Cu; StCu	4- 6	Dew early
17	736.5	27.9	49	35.6	19.1		11.8	E	3	ENE	3	SW	2	SSW	5	ASt; Cu	1- 3	Cu	1- 3	Fires in distant NW
18	735.3	25.2	52	31.1	16.4		12.4	SW	4	SSW	3	WSW	23	SSW	10	Cu	1- 3	ASt	4- 6	Dew early
19	738.2	20.5	57	28.4	11.7		12.7	SSW	3	S	5	SW	6	S	6	CiCu; CiSt	1- 3		0	Dew early
20	738.4	21.6	48	27.3	9.2		12.9	..	0	..	0	WSW	9	WSW	1		0		0	Dew early
21	738.0	22.1	54	27.7	11.8		11.4	..	0	SW	5	WSW	7	SSW	3	Cu	8- 4	Cu	3- 1	
22	738.1	19.5	49	28.3	7.8		12.7	SW	1	S	4	SW	6	SW	3		0		0	Dew early; thin haze over part of sky
23	739.8	21.6	57	27.6	9.5		11.5	..	0	WSW	9	SW	13	SSW	6	CiSt; ACu	1- 3	CiSt; ACu	1- 3	
24	744.1	20.0	45	30.0	9.3		12.6	SSW	1	SE	14	SE	12	SSE	3		0		0	Thin haze over part of sky
25	743.7	23.5	28	33.9	14.2		9.8	SSE	4	ESE	12	E	8	SE	2		0		0	
26	739.8	29.7	16	39.0	18.1		12.6	ENE	1	NE	14	NNE	8	SW	1		0		0	Thin haze over part of sky
27	735.2	32.5	13	39.1	13.8		12.5	NNW	2	NNE	9	W	16	WSW	10		0	Cu; StCu; CuNb	1- 8	Few drops rain in pm
28	740.1	18.6	45	22.9	10.8	0.01	10.2	SW	5	SSW	9	SW	10	SSW	10	Cu; StCu	7- 9	Cu; StCu	6- 1	
29	740.4	20.8	38	28.9	10.6		12.6	S	8	SE	13	SSE	12	SSW	11	CiSt	1- 3	CiSt	1- 3	Thin haze over part of sky
30	740.1	24.7	40	32.8	13.0		12.7	S	6	SSE	4	S	6	SSW	12		0		0	Thin haze over part of sky
31	741.8	24.0	46	33.5	15.0		12.6	SSW	6	SSE	7	S	5	SSW	6		0		0	Thin haze over part of sky
SUM						0.09														
MEAN	739.1	23.6	47	30.9	13.8		10.7		3.0		7.5		9.2		5.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 339

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				136	136	153	184	215	224	230	201	183	180	143	122	126	129	131	139	143	144	150	147	160	⌈146	115	127⌋		0
2				⌈139⌋	169	184	180	215	240	236	179	189	198	182	143	142	129	⌈115	112	120	125	120	129	131	143	146	157⌋		0
3				180	198	212	235	239	267	287	222	171	158	160	151	146	140	142	140	139	140	139	(142)	140	154	161	176		0
4				173	168	171	≷146	144	142	142	127	111	112	122	127≶	130	143	143	143	142	139	144	158	160	168	186	182		0
5				182	183	195	200	200	224	200	182	172	175	157	140	130	120	117	129	143	150	157	157	161	162	160	158		0
6	✓	✓	✓	144	154	161	165	194	201	213	225	235	238	204	187	183	184	180	172	⌈144	131⌋	154	171	⌈127⌋	157	150	142	176	0
7	✓	✓		140	142	143	139	127	129	134	142	155	161	160	160	160	155	151	143	143	129	131	131	140	131	⌈126	115⌋	141	0
8				⌈104	108	118	172⌋	196	198	201	216	227	229	226	225	218	215	209	198	190	182	183	180	195	201	212	225		0
9				229	250	261	275	289	304	341	343	325	249	198	≷178	103	—	(175)	172≶	144	144	162	168	171	171	182	172		1
10				178	195	204	140	142	143	146	144	131	130	130	138	142	144	146	154	142	142	139	134	131	139	144	144		0
11	✓			146	168	180	183	182	186	197	195	172	155	158	161	158	155	144	139	142	139	≷143	176≶	180	194	200	193	169	1
12	✓	✓		183	182	187	198	208	208	211	212	≷178≶	184	166	166	168	169	155	153	155	154	162	⌈153	140⌋	155	157	147	173	1
13				155	158	164	166	166	171	180	186	194	183	182	169	160	157	160	150	155	(144)	—	—	—	180	⌈143	108⌋		0
14	✓	✓		⌈107	122	180⌋	236	262	289	313	260	212	197	184	180	169	166	161	157	154	153	129	140	129	131	143	146	180	0
15				147	139	136	130	129	129	126	130	155	155	146	150	144	143	134	131	134	(134)	—	—	—	—	—	—		0
16				—	—	—	—	—	—	—	—	198	178	154	147	146	(146)	140	151	146	146	136	113	120	127	139	143		0
17	✓	✓	✓	168	201	248	227	236	229	227	235	215	213	201	189	169	158	151	143	115	126	122	131	147	155	147	154	179	0
18	✓	✓	✓	153	134	122	113	125	125	135	143	151	150	144	146	150	146	143	129	118	113	129	129	118	121	118	120	132	0
19				129	129	135	140	140	140	140	127	139	143	146	144	147	153	147	142	142	—	—	—	—	127	130	144		0
20	✓	✓	✓	138	144	143	154	168	201	183	153	151	158	154	147	140	134	134	131	131	127	130	130	130	134	143	147	146	0
21	✓	✓	✓	161	153	153	155	144	150	165	146	142	140	143	142	140	143	139	129	122	121	127	126	126	131	140	147	141	0
22				154	166	173	161	157	161	173	154	143	154	151	143	144	151	144	143	143	—	—	—	—	143	146	154		0
23				179	190	201	212	201	208	187	(136)	130	126	129	124	129	(129)	129	129	124	118	120	122	124	126	127	134		0
24	✓	✓	✓	140	146	⌈153⌋	140	126	130	157	169	171	171	161	147	139	130	129	126	122	120	121	126	139	154	168	160	144	0
25	✓	✓	✓	168	191	249	270	254	247	241	227	213	201	190	189	182	182	175	169	168	168	162	171	183	206	234	250	204	0
26	✓	✓	✓	263	266	254	253	247	231	222	190	158	158	157	153	144	142	129	124	118	120	126	155	166	173	169	(176)	179	0
27				—	—	—	—	—	—	—	—	254	222	⌈172	127⌋	160	153	126	113	117	118	129	127	122	⌈113	89	101⌋		0
28	✓			⌈104	117⌋	124	126	125	138	144	134	120	118	126	125	121	120	129	127	129	125	120	127	126	125	129	121	125	0
29	✓	✓	✓	115	112	112	115	127	144	169	184	164	161	146	140	136	131	127	126	120	109	⌈90	99	112⌋	115	111	109	128	0
30				104	101	103	105	112	120	146	184	211	216	204	183	183	(166)	160	⌈160	100	103	92	77	83	107	108	120⌋		0
31				126	122	117	120	126	129	143	158	172	184	193	194	175	166	168	165	⌈146	115	115	122	129	127	115	105⌋		0
MEANS * 14 DAYS				152	159	172	177	180	186	194	187	174	172	164	159	154	151	146	141	134	131	132	140	140	149	152	152	158	
MEANS † 12 DAYS				157	162	175	180	185	190	198	190	179	178	168	162	157	153	148	142	134	131	132	138	138	147	150	151	160	
MEANS ‡ 9 DAYS				161	167	177	177	180	184	190	186	178	177	167	160	154	150	145	139	129	126	129	138	139	150	153	156	159	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 340

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1930

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				111	108	121	150	166	192	202	183	168	170	130	111	112	119	117	120	125	128	133	130	140	⌈121⌋	——	——		0
2				——	——	——	155	202	239	232	166	181	194	183	140	134	128	⌈108	97	107	105	97	100	97	85	82	108⌋		0
3				171	——	——	——	——	——	——	——	191	158	161	154	138	135	134	138	130	128	123	120	122	112	121	(122)		0
4				120	143	——	——	——	——	——	——	——	≷117	112	122	130≶	132	141	139	138	128	125	121	110	121	110	131	137		0
5				137	133	143	152	153	165	176	154	160	——	——	——	——	——	——	——	——	133	144	140	132	123	130	124	113		0
6	✓	✓	✓	99	104	113	130	152	188	219	245	243	237	198	176	167	151	158	156	⌈127	116⌋	139	140	⌈101⌋	127	129	117	156	0
7	✓	✓		116	112	105	100	104	113	118	130	146	152	162	162	159	146	146	134	132	119	117	116	115	112	⌈110	87⌋	126	0
8				⌈68	67	80	132⌋	——	——	——	——	——	245	246	243	235	223	217	204	195	183	171	166	173	179	193	220		0
9				213	234	265	277	293	315	346	357	349	257	212	205≶	217	188≷	——	≶103	112≷	130	136	134	135	144	145	143		1
10				146	158	(173)	——	——	——	——	——	132	122	121	120	125	126	130	139	126	125	118	111	106	98	105	100		0
11	✓			101	146	159	169	177	179	203	199	184	158	154	160	158	151	133	121	133	141≶	185	159≷	152	151	166	161	158	1
12	✓	✓		151	148	143	170	185	187	205	204≶	183≷	186	159	162	168	168	158	159	160	158	131	⌈132	97⌋	132	127	127	158	1
13				138	(119)	——	——	——	——	——	——	193	187	178	171	171	167	153	142	145	132	141	146	131	136	⌈115	80⌋		0
14	✓	✓		⌈80	82	133⌋	211	250	281	327	261	210	193	179	176	175	168	161	159	151	146	119	123	110	116	124	125	169	0
15				123	122	124	109	101	95	111	122	143	153	143	141	141	133	127	123	121	120	113	105	99	102	101	100		0
16				90	95	98	95	98	101	136	182	194	183	160	150	145	142	144	144	141	138	123	108	109	112	116	107		0
17	✓	✓	✓	130	169	215	213	219	[237]	229	241	221	212	202	193	169	148	135	133	106	117	130	122	131	134	133	133	170	0
18	✓	✓	✓	124	123	100	99	101	102	115	130	137	139	136	135	140	139	125	115	106	104	105	100	98	98	96	83	115	0
19				96	97	106	108	102	106	121	108	126	132	136	136	133	143	142	132	134	130	126	113	105	100	88	⌈78⌋		0
20	✓	✓	✓	⌈81	85	95	107	112	177⌋	154	125	120	152	156	152	139	134	127	127	118	110	106	99	87	83	81	⌈104⌋	118	0
21	✓	✓	✓	⌈123	110	93	119	118⌋	151	142	129	124	126	128	136	133	140	131	118	107	101	101	100	97	83	88	97	116	0
22				123	126	154	144	131	144	158	147	136	143	145	144	145	152	143	141	138	132	124	114	104	94	[81]	——		0
23				——	——	——	——	——	——	——	——	133	119	123	119	127	139	(126)	122	110	101	100	98	98	⌈90	69	91⌋		0
24	✓	✓	✓	107	105	⌈109⌋	104	104	109	151	177	183	183	176	164	153	142	136	129	124	118	115	115	113	125	145	134	134	0
25	✓	✓	✓	134	169	245	289	277	265	256	243	227	212	204	201	194	195	192	181	175	171	171	171	173	179	211	256	208	0
26	✓	✓	✓	269	275	257	258	249	230	218	193	165	163	162	159	153	150	130	125	124	126	118	141	145	171	⌈162	148⌋	179	0
27				⌈172	192⌋	233	272	306	313	323	311	277	249	⌈193	139⌋	194	170	134	117	117	116	118	116	115	⌈107	79	82⌋		0
28	✓			⌈86	91⌋	91	90	87	108	127	123	123	123	125	128	130	127	140	138	134	123	115	119	114	117	118	111	116	0
29	✓	✓	✓	106	100	98	101	116	136	165	190	178	174	162	148	146	141	134	131	123	108	⌈88	95	105⌋	110	107	105	128	0
30				99	——	——	——	——	——	——	——	213	229	219	200	193	179	168	⌈160	97	104	89	70	68	95	89	104⌋		0
31				110	——	——	——	——	——	——	——	——	197	204	202	186	171	171	167	⌈149	113	110	110	119	112	101	86⌋		0
MEANS * 14 DAYS				122	130	140	154	161	176	188	185	175	172	164	161	156	150	143	138	130	126	124	124	117	124	128	128	146	
MEANS † 12 DAYS				127	132	142	158	166	181	192	189	178	177	169	164	158	152	144	139	129	124	120	121	114	122	126	126	148	
MEANS ‡ 9 DAYS				130	138	147	158	161	177	183	186	178	178	169	163	155	149	141	135	123	119	119	120	117	123	128	131	147	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 341

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[116	57	79]	107	99	93	87	86	83	79	77	73	73	76	81	79	78	70	81	88	87	[133	172	147]	92	0
2	✓	✓		[137	133	92]	60	55	55	53	52	57	55	52	57	60	64	65	57	61	65	63	55	55	56	55	52	65	0
3	✓	✓	✓	44	43	43	40	34	30	33	49	53	53	56	N 60	53	55	49	53	55	N 60	65	58	86	82]	87	82	55	1
4	✓			96	100	106	100	93	73	69	64	51	48	48	53	64	66	64	70	[81	83	114	139	152	157	164	173]	93	0
5	✓			[159	146	114	113	96	210	144	124]	108	106	104	112	105	103	127	136	[163	148]	124	124	128	112	100	109	126	0
6	✓	✓	✓	106	99	112	112	113	115	108	109	83	79	78	78	75	77	90	88	95	95	91	105	105	(111)	118	116	98	0
7	✓	✓		104	99	104	[139	209	257	226]	70	59	61	59	62	75	84	90	95	[103	118	112	151	204	200	176	185]	127	0
8	✓	✓		[219	206	203	212	198	190	160]	100	83	82	90	101	95	108	[119	163	168	209	145	174	200	216	217	229]	162	0
9	✓			[213	207	194	198	195	185	147	152	155	142]	116	112	95	101	105	101	107	114	111	[121	134	152	160	164]	145	0
10				—	—	—	—	107	90	83	109	103	92	98	104	105	133	118	108	109	[118	143	152	174	221	178	156]		0
11	✓	✓		[189	254	171]	168	155	143	140	118	94	85	85	95	99	99	101	[118	139	145	156	148	149	156	164	138]	138	0
12				[157	172	195	165	132	100	90	100	83	97	127	129	129	138	150	138]	122	107	132	146	133	143	156	—		0
13				—	—	—	—	—	83	80	79	78	68	68	69	75	91	95	89	96	107	95	91	91	92	90	86		0
14	✓		✓	86	79	76	90	86	77	81	75	78	77	73	79	80	80	87	82	[79	107	128	163	142	169	135	102]	96	0
15				[79	92]	95	104	98	77	91	126	113	102	104	97	95	109	[129	146	133	138	130	146	Z+	Z+	206	174]		0
16	✓			[164]	135	146	{156	124	98	111	76	90}	95	102	107	108	99	105	95	95	[129	128	143	162	145	142	154]	121	0
17				[98	83	96]	82	78	73	66	64	61	—	—	—	56	64	78	85	91	95	95	100	101	94	79	73		0
18	✓	✓	✓	75	65	64	59	59	55	55	57	61	77	78	82	86	86	82	90	82	92	85	87	79	73	75	56	73	0
19	✓	✓	✓	73	79	74	74	57	54	53	60	61	62	60	57	62	57	73	71	68	77	97	68	53	[86	97	65]	68	0
20	✓	✓		56	56	60	49	54	46	42	44	60	65	60	62	64	70	66	66	75	83	[112	99	146	293	134	150]	84	0
21	✓	✓		[226	241	203	178	116	114	161	168	126	105	100	96	139	161	114]	83	84	78	88	[129	168	217	223	203]	147	0
22				[194	233	197	161	129	135]	{87	69	68	76	—	—	64	N 62	55	60	66	66	70	82	86	83	66	64}		1
23				—	—	{56	58	—	70	—	—	25	N 17	23	N 25}	43	54	63	59	60	65	52	85	73	66	62	66		1
24	✓	✓	✓	63	57	51	52	55	52	51	47	46	47	52	62	63	68	62	61	64	65	68	66	52	48	53	73	57	0
25	✓			76	79	82	78	64	51	53	65	67	64	73	77	83	82	80	79	87	89	83	77	77	69	57	53	73	0
26	✓	✓	✓	47	41	43	40	42	36	37	51	57	73	63	60	64	58	55	61	55	64	61	46	44	53	44	55	52	0
27	✓	✓		60	73	63	54	50	44	38	42	53	59	56	56	57	53	54	{N 64	93	78}	74	[140	213	205	198	248]	89	1
28	✓	✓		[200	187	247	222	178	151	121]	94	{N 56	51	52	68	64	73	68	78	83	86	82	94	99}	112	129	125	113	1
29	✓	✓		[221	205	179	235	192	168	186	159]	103	86	79	78	61	60	63	62	63	64	74	[120	181	248	254	285]	143	0
30	✓	✓		[289	237	238	280	247	216	187	130	73]	57	59	59	56	57	61	67	70	[103	154	168	159	146	151	137]	142	0
31	✓	✓		[101	86	82	118	157	156	159	146	138	99	83	67]	62	57	55	64	70	81	76	[164	236	273	249	227]	125	0
MEANS * 24 DAYS				130	124	118	122	113	111	104	89	79	75	73	76	77	79	80	83	88	96	99	114	130	146	140	139	104	
MEANS † 17 DAYS				130	127	119	123	116	111	106	88	74	70	68	71	73	76	75	79	84	92	94	110	131	151	143	143	102	
MEANS ‡ 9 DAYS				68	66	65	63	61	57	55	60	61	65	65	67	69	72	74	75	77	83	82	78	76	79	78	73	70	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER {}=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 342

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	743.9	23.2	38	32.8	15.8		12.7	S	6	ESE	12	SE	7	S	2	CiSt	0- 1	CiSt	0- 1	Fire nearby in NE
2	742.3	28.0	24	35.0	15.4		12.3	SSE	3	ENE	12	ESE	6	S	1		0		0	Fires in distant N, NE, and W
3	739.5	31.0	21	37.2	18.3		12.4	..	0	E	8	SE	1	SSW	1	CiSt	1- 3	CiSt; ASt	1- 3	Fire in N
4	738.3	33.0	22	39.9	18.1		11.7	SSW	1	..	0	WSW	13	SW	2		0	ACu; ASt	1- 3	
5	738.4	24.0	64	30.2	16.0		11.5	..	0	NNE	4	WSW	8	SW	10	CiCu; ACu; ASt	1- 3	CiCu; ASt; ACu	1- 3	Cloudy at night
6	740.9	21.2	50	29.9	15.3		12.1	SSW	9	W	12	SSW	8	SSW	10	Ci; ACu	1- 3	Ci; ACu	1- 3	
7	740.8	23.0	42	32.3	13.5		12.7	SSW	6	S	8	S	3	SSW	8	CiSt; ACu	1- 3	CiSt; ACu	1- 3	Sky partly hazy
8	738.5	24.2	36	34.5	13.6		12.8	SSW	3	SE	3	SW	12	SSW	10	ACu; CiSt	1- 3	CiSt; ACu	1- 3	
9	738.6	23.0	52	32.8	12.2		12.8	SW	3	S	7	SW	6	SSW	9	CiSt	1- 3	CiSt	1- 3	Dew early
10	742.0	22.5	56	33.9	17.8		11.7	SSW	6	SSW	4	S	2	..	5	ASt	1- 3		0	Sky partly hazy in pm
11	740.5	26.0	56	37.7	16.2		12.4	S	3	SSE	2	SW	5	SSW	6	CiSt; CiCu	1- 3	CiSt; CiCu	4- 6	Fires in distant W at 15^h5
12	740.8	22.8	60	32.5	17.2		6.6	SSW	4	SSE	8	S	5	SSW	6	CiSt; CiCu; ASt	10- 7	CiSt; CiCu; ASt	7- 8	Air smoky at some distance
13	741.6	23.8	44	34.0	15.2		12.7	S	1	S	10	ESE	4	SSE	3	CiSt; CiCu	1- 3	CiSt; CiCu; ACu	1- 3	Hazy or smoky in early am
14	739.4	29.0	41	37.6	22.0		9.1	ENE	2	ESE	9	NNE	2	SW	1	CiSt; StCu	1- 3	StCu; CuNb	4- 8	
15	737.3	24.8	68	34.2	19.8		12.5	..	0	SW	4	SW	12	SSW	4	ACu; ASt	1- 6	CiSt; ACu; ASt	6- 1	Hazy or smoky during day; much smoke at 21^h
16	740.0	21.8	81	32.9	16.6	T	10.4	SSW	8	SSE	6	S	4	SSW	8	Cu; FrCu	3- 8	Cu; FrCu	8- 4	Light rain in early hours
17	741.9	22.7	46	34.8	16.5		12.4	SSE	4	ESE	13	ESE	3	ESE	4		0		0	Thin sky-haze; air smoky
18	741.3	30.3	22	37.9	20.5		11.8	E	5	NE	8	SE	10	SSE	1	CiCu; CiSt; ACu	1- 3	CiSt; ACu	4- 6	Fire nearby at 9^h8; air overhead smoky
19	740.7	31.0	16	37.7	21.8		11.6	SE	6	ENE	8	ENE	5	..	0	CiSt	1- 3	CiSt	1- 3	Fire nearby
20	739.3	31.5	20	38.3	19.5		5.1	..	0	NE	6	SE	1	S	1	CiSt; ASt; ACu; CuNb	7- 8	CiCu; ACu; ASt	4- 6	Fire in distant SW
21	738.7	28.8	42	35.8	22.2		10.5	..	0	S	4	SSW	8	SSW	10	Ci; ACu; ASt	3- 8	Ci; ACu; ASt	7- 8	Smoky in pm
22	741.3	21.0	49	13.9	13.9		12.4	S	7	SE	15	SE	14	SE	12		0	CiSt	0- 1	General smoke haze
23	741.7	18.3	39	29.6	11.6		12.4	SE	22	ESE	24	ESE	18	ESE	6	CiSt	0- 1		0	
24	741.7	24.0	26	32.5	12.7		12.4	ESE	11	ENE	17	E	12	..	0	CiSt	1- 3	CiSt	1- 3	
25	741.1	27.5	19	35.4	17.9		12.5	ENE	2	ENE	14	ENE	4	SE	1		0	CiSt	0- 1	Thin sky-haze
26	741.0	30.5	16	36.8	17.0		12.4	..	0	NE	11	E	6	..	0	CiSt	1- 3	CiSt	1- 3	Fires in S after 10^h
27	737.3	33.6	12	40.3	16.5		12.1	..	0	NNE	9	NW	6	W	6	CiSt	1- 3	CiSt; ACu	1- 3	Much smoke at 16^h and after
28	736.7	20.0	68	22.2	18.3		5.5	WSW	5	SW	10	SW	16	SSW	11	Cu; FrCu; Nb	7-10	ASt; Cu; FrCu	6- 1	Somewhat hazy
29	744.7	17.0	36	24.8	7.3		12.0	S	8	SE	15	SE	10	S	8	CiSt; Ci	1- 3	Ci; CiSt	1- 3	
30	744.4	22.7	23	31.6	9.7		12.3	SSW	1	SE	7	SSE	5	S	5	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Thin haze over much of sky
31	744.2	25.1	42	37.1	13.5		12.3	S	8	SE	12	SE	8	S	4	Ci; CiSt	1- 3	Ci; CiSt; CiCu	4- 6	Dew early; smoky, especially in am
SUM						0.0														
MEAN	740.7	25.3	40	33.9	16.2		11.4		4.3		9.1		7.2		5.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 343

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[100	97	114]	129	136	140	149	156	164	167	170	171	163	157	153	150	146	143	133	139	139	[113	85	100]		0
2	✓	✓		[113	132	179]	261	286	296	288	259	222	208	195	190	181	171	167	170	163	153	156	168	170	183	202	220	197	0
3	✓	✓	✓	250	267	[261	261]	274	306	306	224	178	164	154	153	152	154	145	135	139	[97	125	143	111	126]	125	97	181	1
4				95	96	97	106	111	114	122	138	152	149	125	124	121	122	111	97	[86	85	83	81	81	83	85	83]		0
5				[85	99	108	129]	—	—	—	—	—	104	104	111	111	114	110	107	[79	82]	115	118	110	113	114	120		0
6	✓	✓	✓	125	124	129	129	129	125	115	121	125	128	125	133	142	139	110	106	115	121	121	111	114	106	100	97	120	0
7	✓	✓		97	100	92	[72	51	42	83]	167	199	213	213	204	175	168	167	164	[138	108	97	90	82	83	85	83]	124	0
8	✓	✓		[93	93	83	82	95	97	111]	168	206	206	197	183	171	167	[129	85	83	56	108	115	99	96	96	93]	121	0
9				[97	97	97	96	95	104	106	—	97	97]	114	—	—	—	—	—	—	—	—	—	—	138	132	128		0
10	✓			117	125	125	135	139	149	139	136	149	153	153	156	154	157	156	153	149	[135	121	107	111	85	111	120]	135	0
11	✓	✓		[93	74	107]	121	125	125	125	138	153	164	161	152	153	152	150	[135	115	111	101	108	121	124	122	115]	127	0
12	✓			[106	96	83	83	79	85	83	79	78	75	61	51	51	54	56	83]	107	111	111	111	115	121	117	115	88	0
13	✓			[111	103	96	122]	181	196	196	182	171	165	167	178	163	(156)	154	161	165	167	163	167	170	179	193	196	163	0
14				218	250	250	208	196	199	195	178	165	153	149	149	156	153	153	154	[149	74	56	70	93	83	117	142		0
15				[149	158]	156	142	147	165	154	125	125	129	136	—	—	—	—	—	[92	101	125	129]	—	—	—	—		0
16				—	—	—	—	—	—	—	—	—	138	136	[110	97]	125	138	149	136	[86	95	76	63	71	65	63]		0
17	✓			[57	58	75]	118	118	117	138	152	163	164	167	164	157	149	139	125	117	118	115	124	131	153	167	181	132	0
18	✓	✓		196	208	238	267	277	289	295	289	240	190	177	167	153	152	143	124	124	124	131	129	157	171	190	199	193	0
19	✓	✓		182	181	206	220	236	239	236	218	185	172	167	157	156	156	154	154	149	152	150	171	195	[178	170	227]	184	0
20	✓	✓		263	264	263	286	297	282	282	278	210	164	156	170	171	164	(149)	150	150	139	[97	97	70	39	74	67]	178	0
21	✓	✓		[43	42	44	56	67	78	67	61	70	74	75	70	43	32	67]	107	122	117	125	[95	75	60	44	39]	70	0
22	✓			[29	25	24	19	24	25	40	56	56	64	79	108]	115	111	115	101	93	93	97	101	122	128	147	156	80	1
23	✓			164	164	147	153	153	153	152	156	164	161	167	183	186	185	175	168	157	164	164	171	178	186	195	221	169	1
24	✓	✓	✓	240	261	274	281	278	264	249	(252)	254	213	179	170	168	164	163	157	149	142	139	160	181	208	215	199	207	0
25				197	211	211	217	232	249	250	211	178	145	154	154	156	157	152	143	142	142	139	140	154	179	203	225		0
26	✓	✓		259	260	252	275	282	281	275	246	188	174	156	149	147	147	142	140	140	136	133	143	163	160	196	204	194	0
27	✓	✓		182	170	210	218	236	250	288	293	210	188	157	152	149	(149)	125	[96	24	92]	107	[58	28	44	49	42]	147	1
28	✓	✓		[51	32	24	28	56	71	88]	103	106	110	110	113	110	100	100	97	99	99	93	99	100	110	110	114	88	1
29	✓	✓		[67	68	56	42	47	47	50	57]	72	83	92	95	100	114	114	115	117	(120	93	65)	[39	39	38	42]	74	0
30	✓	✓		[42	42	42	40	39	40	53	74	114]	164	181	167	170	167	174	157	142	[74	40	42	50	67	58	75]	92	0
31	✓	✓		[74	64	56	56	56	56	56	56	63	81	104	122]	129	128	133	142	145	143	138	[86	67	44	54	54]	88	0
MEANS * 23 DAYS				128	128	133	145	153	157	162	164	155	151	148	147	143	141	136	132	126	121	118	116	115	117	124	129	137	
MEANS † 17 DAYS				139	140	148	159	167	170	175	177	164	159	153	150	145	143	137	131	124	117	115	111	107	108	113	116	140	
MEANS ‡ 9 DAYS				213	221	231	238	245	248	249	234	196	173	159	159	156	154	145	138	138	133	135	143	153	162	173	181	182	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 344

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	141	145	160	167	176	181	188	188	182	179	176	172	169	166	145	137	132	[98	69	78]		0
2	✓	✓		[95	91	150]	244	305	316	308	280	244	230	222	217	209	206	205	203	182	168	162	164	155	155	172	212	204	0
3	✓	✓	✓	244	268	[266	284]	286	320	317	240	189	178	175	168	162	159	155	150	143	[96	126	144	99	109]	109	89	186	1
4				—	—	—	—	—	—	—	—	—	—	132	125	120	117	104	90	[79]	—	—	—	—	—	—	—		0
5				—	—	—	—	[101	57	72	87]	99	101	104	105	110	114	101	100	[65	69]	99	100	90	99	99	106		0
6	✓	✓	✓	107	113	115	116	118	115	109	118	127	137	129	135	145	(150	108)	110	114	110	110	104	103	96	91	88	115	0
7	✓	✓		91	94	86	[62	37	32	60]	177	219	232	236	216	177	169	162	165	[150	99	98	86	65	66	70	71]	122	0
8	✓	✓		[60	57	59	58	62	64	96]	162	206	212	199	182	170	166	[128	79	76	50	99	97	82	71	54	53]	106	0
9				[50	43	56	65	60	69	89	86	82	87]	107	109	119	134	134	144	151	147	143	125	116	115	115	101		0
10	✓			110	110	110	119	124	116	118	123	147	155	162	172	170	155	162	161	150	[133	109	88	95	63	88	97]	127	0
11	✓	✓		[73	55	77]	96	97	89	100	120	151	155	151	142	143	144	145	[131	106	103	90	91	105	103	99	91]	111	0
12	✓			[80	77	62	69	72	86	86	75	77	73	53	43	42	42	44	80]	99	105	105	95	104	100	91	84	77	0
13	✓			[79	62	65	88]	155	200	205	196	189	178	(182)	194	172	(168)	161	162	159	160	158	151	155	155	164	162	155	0
14			✓	193	238	238	184	161	171	176	170	164	151	147	148	155	153	148	—	—	—	—	—	—	[65	95	118]		0
15				[135	138]	141	—	—	—	—	—	—	122	127	134	121	105	[76	69	82	96	114	109	33	33	72	79]		0
16				[82]	96	99	92	105	116	128	128	128	143	132	[100	95]	124	142	151	142	[86	86	72	53	59	57	50]		0
17	✓			[44	41	60]	118	124	123	142	155	171	181	181	181	174	164	145	131	118	116	115	111	112	126	155	178	132	0
18	✓	✓	✓	176	195	254	286	292	308	320	308	254	204	183	174	163	155	151	115	119	134	138	135	162	184	198	222	201	0
19	✓	✓	✓	186	177	199	212	230	231	233	222	195	185	182	173	172	172	160	155	153	153	135	159	196	[162	135	206]	183	0
20	✓	✓	✓	262	268	256	280	273	284	297	288	223	173	170	172	172	164	(155)	148	143	138	[91	91	62	23	60	53]	177	0
21	✓	✓		[32	28	30	38	49	60	52	43	62	63	69	62	37	27	60]	100	119	119	120	[88	61	48	38	32]	60	0
22	✓			[24	21	17	15	18	19	37	53	58	60	74	115]	153	126	126	110	96	92	104	108	124	135	150	166	83	1
23	✓			179	177	162	169	162	162	169	174	176	105	198	215	230	228	210	207	191	187	180	181	186	196	213	232	187	1
24	✓	✓	✓	256	268	286	294	296	280	268	268	254	235	206	200	196	191	189	174	153	145	141	145	176	201	202	188	217	0
25			✓	—	—	—	—	—	—	—	215	191	171	161	158	161	160	152	145	145	144	142	141	131	151	196	217		0
26	✓	✓	✓	253	267	275	277	284	299	292	251	202	176	162	153	151	153	152	148	148	142	135	145	160	154	186	203	199	0
27	✓	✓	✓	193	164	210	231	247	260	307	309	231	197	173	170	167	165	(133)	[99	20	95]	107	[28	22	33	32	30]	151	1
28	✓	✓		[38	25	19	20	40	56	78	94]	104	110	114	121	113	105	108	105	104	98	95	95	98	98	88	97	84	1
29	✓	✓		[52	48	42	39	34	37	42	46]	71	79	88	96	107	114	116	123	125	127	129	[79	30	23	28	28]	71	0
30	✓	✓		[30	30	30	23	30	32	38	44	110]	177	190	179	188	186	186	176	155	[76	32	37	40	57	51	68]	90	0
31	✓	✓		[69	62	54	49	40	40	45	54	62	79	98	126]	135	138	137	155	155	154	144	[77	42	39	42	41]	85	0
MEANS * 23 DAYS				119	117	125	139	147	153	162	165	162	155	156	157	154	150	143	139	129	122	118	109	106	104	109	117	136	
MEANS † 17 DAYS				130	130	142	153	160	166	174	178	171	166	162	158	153	151	144	137	127	118	115	104	98	95	97	104	139	
MEANS ‡ 9 DAYS				208	218	233	240	243	252	258	244	207	185	172	170	166	164	153	143	139	133	133	137	144	149	160	173	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 345

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[164	215	218	166]	95	78	70	68	60	62	61	60	56	66	65	73	73	71	87	79	[156	273	300	185]	118	0
2	✓			[110	75]	79	80	69	47	42	51	54	53	52	56	60	(60)	[68	60	78	54]	43	[63	73]	30	24	26	59	0
3	✓	✓		36	36	57	53	[49	73	91	144	121	120	105]	90	89	86	80	89	87	96	104	123	[135	113	124	129]	93	0
4	✓	✓		[93	136	170	194	175]	110	109	80	81	90	87	72	67	67	69	73	78	88	108	135	121	97	76	71	102	0
5	✓	✓	✓	85	[114	130]	86	91	87	86	86	85	78	73	67	65	62	60	56	62	64	75	[92	336	371	267	190]	115	0
6	✓	✓		[164	168	210	208	203	135	82]	53	49	47	49	54	51	55	62	60	66	[96	68	108	131	134	139	198]	108	0
7	✓	✓		[151	146	156	108	100	94	79	146	190	187	159	121	87]	81	80	78	87	95	[125	130	158	159	138	132]	124	0
8	✓	✓		[125	140	125	60	89	117	155	144	132]	114	99	87	87	85	96	90	85	[108	147	210	203	166	125	110]	121	0
9	✓			[163	200	157	114	137	134	134	195	220	185	139	123	117	116	122	118	121	138	168	243	226	169	126	96]	153	0
10	✓	✓		[101	92	90	104	125	225	205	207	150	118	113	123	110	111	131	128	125	129	147	188	209	242	252	246]	153	0
11	✓	✓		[248	227	234	159	115	52	73]	104	106	107	101	87	85	75	78	88	80	80	74	92	111	108	104	93	112	0
12	✓	✓		78	60	N 65	65	83	104	111	117	107	97	87	94	82	83	93	90	100	97	93	99	106	122	139	157	97	1
13	✓	✓	✓	157	130	126	117	125	88	62	69	57	54	62	61	77	77	88	100	114	103	88	[96	161	131	135	143]	101	0
14	✓	✓	✓	[135	104	113	121	142	140	135	125]	112	105	96	98	114	104	92	104	121	123	117	123	128	131	123	117	118	0
15	✓			130	100	109	106	108	113	108	113	122	114	104	100	91	86	87	83	83	77	69	76	82	83	106	118	99	0
16	✓			126	135	141	130	103	110	108	118	96	80	75	74	79	86	[103	126	113	118	96	66	97	78	110	112]	103	0
17	✓	✓		[157	173	181	200	177	169	160	109]	90	88	78	73	90	83	101	101	[131	153	153	164	173	180	173	183]	139	0
18	✓	✓		[152	123	95	111	156	161	144	141	118	112	109	101	142	167	125	123	149	175	196	160	142	135	125	101]	136	0
19				[105	119	138	136	144]	-83	N 62	83	75	75	68	62	57	60	61	46	78	75	55	-11	Z	-73	60	78		1
20	✓	✓		88	101	108	100	93	79	73	64	55	47	44	45	53	[69	99	118	96	93	86	99	140	148	108	96]	88	0
21				[143	156	169	118]	104	90	87	92	83	77	73	N 56	Z	Z	N107	105	117	113	125	Z-	N 96	110	118	126		1
22				131	[165	290	Z+	227	150	142	133	177	176	151	140	120	117	123	124	148	174	183	192	196	168	177	151]		0
23	✓			[155	134	135	160	129	122	163	218	144	113	96]	100	100	99	107	111	118	127	[151	156	173	173	183	208]	141	0
24	✓			[155	173]	135	118	109	109	86	79	69	69	78	80	80	83	87	93	100	97	117	112	114	111	121	126	104	0
25	✓			123	108	131	[144	225	295	273	173]	75	53	56	74	77	82	104	94	103	114	129	130	106	95	104	104	124	0
26				104	110	—	—	—	—	—	104	90	73	71	70	70	68	69	79	70	[86	83]	62	75	101	93	73		0
27				—	—	—	—	—	[47	49]	53	62	47	52	64	67	[77	73]	70	74	80	[101	93	117	197	179	206]		0
28	✓	✓		[161	122]	100	85	83	87	91	64	60	74	73	66	70	69	74	80	83	80	96	[127	100	195	163	91]	96	0
29																													
30																													
31																													
MEANS * 23 DAYS				134	131	133	121	121	119	115	116	102	94	87	83	84	85	90	93	98	103	110	125	147	150	142	132	113	
MEANS † 15 DAYS				129	125	131	118	120	115	110	110	101	96	89	83	85	85	89	92	98	105	112	130	157	162	146	137	114	
MEANS ‡ 3 DAYS				126	116	123	108	119	105	94	93	85	79	77	75	86	83	83	89	100	103	106	119	118	117	113	115	101	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 346

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	743.6	25.5	45	37.0	16.8		12.3	S	1	E	8	E	2	S	3		0		0	Smoky in evening; fires in various directions
2	738.8	32.1	21	40.3	19.0		11.9	ESE	1	NNE	12	NW	4	..	0	Ci; CiSt; CiCu	1- 3	Ci; CiCu	4- 6	Smoky all day, but especially so after 17h
3	738.7	23.0	61	28.9	16.0		12.0	SW	1	SSW	7	SSW	12	SSW	9	ASt; CiCu	6- 1	ASt; CiCu	1- 3	Somewhat hazy
4	744.7	18.0	37	28.1	10.5		12.1	S	6	ESE	20	ESE	11	SSE	8		0		0	
5	743.5	22.5	29	33.2	14.9		12.0	SE	7	E	8	SE	5	S	6		0	CiSt	0- 1	Smoke from SW at 20h
6	740.3	26.1	24	37.1	13.0		11.8	S	1	SE	4	S	2	S	6	ACu	1- 3	ACu	1- 3	Smoky after 17h
7	738.4	21.4	64	28.1	16.4		11.0	S	3	SSW	11	SSW	12	SSW	8	FrCu; StCu	8- 4	FrCu; StCu	3- 1	Very smoky, especially in am
8	742.7	20.6	55	31.2	12.7		12.2	S	9	SE	8	SE	1	SSW	9		0		0	Smoky all day
9	741.4	21.8	46	32.2	12.8		11.9	SSW	4	S	4	S	6	SSW	8		0		0	Smoky all day
10	740.3	22.2	48	33.9	13.6		11.8	SW	1	SE	3	W	6	SW	2	CiSt; CiCu	1- 3	CiSt; CiCu	4- 6	Smoky all day; dew in early am
11	741.4	19.5	66	24.5	11.5		3.3	..	0	SW	3	SW	9	SW	2	CiSt; ASt; ACu	7-10	CiSt; ASt; ACu	7-10	
12	744.5	17.8	60	25.3	14.3	0.03	10.1	SSW	4	SSE	12	SSE	6	S	9	ASt; Cu; FrCu	7-10	Ci; CiSt	6- 4	Rain in early hours; somewhat hazy or smoky during day
13	743.5	20.5	35	31.3	8.5		11.4	..	0	ENE	7	ESE	1	SW	6	Ci; CiCu; ACu	1- 6	Ci; CiCu; ACu	4- 6	
14	740.5	19.9	63	31.3	12.4		9.3	SSW	3	S	11	SW	2	SSW	4	Ci; CiSt; ASt	1- 6	CiSt; ASt	4- 6	Somewhat hazy at intervals; dew early
15	739.7	22.6	54	32.2	15.2		6.1	SSE	4	SSE	11	SE	4	S	7	Ci; CiSt; ASt	4- 8	ACu; ASt; CiSt; CuNb	7- 8	Dew early
16	741.8	24.7	40	36.1	16.8		11.6	SSE	3	ESE	10	ESE	5	S	8	CiSt; ASt	1- 3	CiSt; CiCu	1- 3	Smoky, especially after 14h5
17	741.5	27.3	33	37.2	16.3		9.0	..	0	SE	1	S	6	SSW	1	Ci; CiSt	1- 3	Ci; CiSt; ACu	4- 8	Smoke apparent at 16h
18	740.1	23.1	53	32.5	16.3		5.5	..	0	SSE	5	S	4	S	6	Ci; CiSt; ACu; ASt	7-10	Ci; CiSt; ACu; ASt	7-10	Smoky throughout; thunder at 20h
19	740.2	22.4	56	30.2	18.2		3.4	S	1	ESE	13	ESE	10	SE	19	CiSt; ACu; ASt	7-10	CiSt; ACu; ASt; CuNb	7-10	Threatening at 18h and in evening
20	741.8	23.3	39	34.8	18.2		7.6	ESE	13	E	16	ENE	10	E	6	Ci; ACu; CuNb	6- 1	Ci; CiSt; ACu	1- 6	Smoky in pm
21	740.7	29.2	29	37.6	22.7		9.5	ENE	8	NNE	14	NNW	7	..	0	CiSt; ACu; Cu	1- 3	StCu; CuNb	4- 8	A few light showers; thunder at 15h
22	739.8	22.5	72	30.4	17.8		7.2	WSW	1	SW	2	WSW	5	SSW	7	Ci; ASt; Cu; FrCu	9- 7	Ci; ASt; Cu; FrCu	6- 4	Mist early; somewhat hazy; lightning at 20h
23	739.8	18.5	67	24.4	15.0		5.9	SSW	4	SSW	6	SW	7	SSW	4	Cu; StCu	10- 7	CiCu; ACu; ASt	6- 1	Possibly dew early
24	741.7	18.7	61	25.4	10.6		9.9	..	0	SSE	7	SSW	11	SSW	10	ASt; Cu	1- 3	StCu	4- 6	Dew early; fire in SE at 21h
25	744.1	18.5	65	26.1	10.5		10.5	SSW	1	ESE	4	S	3	S	8	Cu	1- 3	ASt; StCu	4- 6	Dew early; fire in E
26	744.5	19.6	49	30.0	10.7		11.6	S	1	ESE	4	NNE	1	SSW	6		0		0	Dew early; smoky in am
27	742.9	25.0	36	32.8	11.6		9.4	..	0	NE	6	ESE	1	SSW	4	Ci; CiSt	1- 3	StCu	4- 6	Dew early; smoky at 18h and after
28	744.2	25.8	34	33.2	15.3		11.5	ESE	2	NE	10	E	5	SE	3	ACu	1- 3	ACu	1- 3	Smoky in evening
29																				
30																				
31																				
SUM						0.03														
MEAN	741.6	22.6	48	31.6	14.6		9.7	2.8		8.1		5.6		6.0						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 347

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1931

DAY	*	†	‡	0-	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈ 51	47	55	84⌋	142	166	181	195	204	203	181	179	—	—	—	—	—	—	—	—	—	⌈ 48	47	53⌋		0
2				—	—	—	—	—	—	—	—	190	179	162	158	140	126	⌈ 70	41	30	101⌋	133	⌈103	110⌋	153	190	201		0
3	✓	✓		167	196	173	159	⌈151	133	99	68	74	75	82⌋	110	118	(114)	126	126	134	122	112	110	⌈107	100	96	82⌋	118	0
4	✓	✓		⌈ 64	55	53	52	73⌋	101	107	96	110	104	116	111	114	112	112	104	96	99	96	85	96	110	115	126	96	0
5	✓	✓		114	⌈ 96	104⌋	119	123	133	134	136	149	147	127	140	148	119	112	126	121	122	123	⌈122	22	25	38	44⌋	110	0
6	✓	✓		⌈ 42	45	55	66	78	99	167⌋	223	236	242	223	196	185	173	166	156	152	⌈ 70	66	55	63	58	56	55⌋	122	0
7	✓	✓		⌈ 62	68	62	41	27	32	27	25	21	27	38	55	100⌋	122	122	122	122	107	⌈ 86	96	86	93	103	104⌋	73	0
8	✓	✓		⌈ 99	86	93	96	70	55	47	55	60⌋	68	77	77	75	71	73	79	81	⌈ 66	40	27	41	66	79	81⌋	69	0
9				⌈ 59	53	73	82	67	55	58	45	41	51	55	56	55	58	56	55	58	59	47	—	—	—	67	85⌋		0
10	✓	✓		⌈ 95	95	86	81	53	41	51	56	82	95	99	99	103	93	(77)	55	59	66	67	67	66	64	58	52⌋	73	0
11	✓	✓		⌈ 55	58	58	64	37	68	99⌋	112	99	100	105	132	144	147	147	149	153	152	159	(159	153)	163	173	177	119	0
12	✓	✓		186	188	153	112	107	110	116	114	112	114	119	107	103	96	100	95	79	64	66	79	82	88	89	82	107	1
13	✓	✓		78	82	90	92	88	132	162	175	(193	204)	197	160	149	127	112	111	121	114	116	⌈115	88	101	99	86⌋	125	0
14	✓	✓	✓	⌈ 84	85	86	85	84	82	70	78⌋	81	85	93	82	84	100	122	112	96	93	96	111	125	121	134	(119)	96	0
15				—	—	—	—	—	—	—	—	82	73	79	77	79	84	86	⌈ 82	66	68⌋	85	88	96	100	100	92		0
16				82	85	82	85	99	121	115	111	122	147	138	—	—	—	—	—	—	—	⌈ 45⌋	—	—	⌈ 62	47	41⌋		0
17	✓	✓		⌈ 38	41	37	42	44	55	58	82⌋	93	96	110	110	99	(93)	⌈ 73	67	55	51	55	59	60	66	64	64⌋	67	0
18	✓	✓		⌈ 62	58	62	66	62	59	55	58	62	74	82	85	62	49	68	84	64	53	55	68	71	86	93	93⌋	68	0
19	✓			⌈ 93	85	84	79	86⌋	≷ 99 ≶	114	126	126	125	130	138	118	125	110	97	⌈ 82	73	55	53	38	56	73	85⌋	94	1
20	✓	✓		103	110	100	110	133	159	174	177	178	175	147	132	160	⌈118	58	55	67	55	96	56	55	74	125	149⌋	115	0
21	✓			⌈121	111	118	177⌋	190	184	174	174	175	162	155	160	≷111	121	156	101≶	99	108	108	≷ 73	119≶	111	108	122	135	1
22				122	⌈105	71	55	—	—	—	—	—	58	58	68	71	70	71	73	58	58	52	44	59	84⌋	95	99		0
23				84	92	95	97	99	95	⌈ 82	41	56	71	78⌋	92	—	—	—	—	—	—	—	—	⌈ 52	45	52	66⌋		0
24				⌈ 73	81⌋	114	133	134	136	—	—	126	114	88	100	99	(93)	85	73	79	79	—	—	77	—	68	68		0
25				—	—	—	—	—	—	—	—	140	178	169	125	116	122	119	107	99	85	67	—	—	86	96	96		0
26				—	—	—	—	—	—	—	—	108	116	(114)	99	99	107	110	110	110	⌈ 82	79⌋	85	85	82	84	79		0
27	✓			81	70	70	67	68	84	136	203	⌈164⌋	193	169	153	140	⌈101	85⌋	122	123	122	⌈ 32	58	66	45	53	56⌋	103	0
28	✓	✓		⌈ 82	107⌋	122	137	145	127	110	163	155	111	127	118	110	99	96	100	85	82	73	⌈ 55	96	45	59	112⌋	105	0
29																													
30																													
31																													
MEANS * 18 DAYS				90	91	89	91	90	97	106	118	121	122	122	120	118	110	106	103	99	90	83	80	80	82	90	94	100	
MEANS † 15 DAYS				89	91	89	88	85	92	98	108	114	114	116	114	117	109	104	103	99	88	87	84	81	84	92	95	98	
MEANS ‡ 3 DAYS				92	88	93	99	98	116	122	130	141	145	139	127	116	113	115	104	90	85	86	92	101	106	113	109	109	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 348

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1931

DAY	*	†	‡	0-	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[40	37	31	64]	144	171	188	210	218	214	202	194	195	176	171	167	163	160	139	136	[84	38	31	50]		0
2				[64	114]	138	142	151	193	208	204	192	189	168	182	154	138	[74	42	31	107]	130	[100	98]	171	200	214		0
3	✓	✓		176	206	171	160	[150	131	97	63	74	69	81]	108	115	126	140	135	140	120	107	101	[100	96	87	73]	118	0
4	✓	✓		[60	50	42	42	62]	99	107	106	117	106	120	126	128	132	128	120	111	108	99	77	83	98	108	117	98	0
5	✓	✓	✓	105	[93	99]	124	133	139	144	148	155	148	130	147	159	126	126	139	125	122	124	[112	15	20	28	34]	112	0
6	✓	✓		[37	43	41	52	58	89	149]	238	258	259	238	214	197	185	177	167	159	[64	64	54	55	59	51	42]	123	0
7	✓	✓		[52	57	51	41	23	25	23	22	23	24	33	52	102]	131	133	135	130	110	[81	91	73	79	88	89]	70	0
8	✓	✓		[89	95	88	92	69	52	45	50	63]	64	72	72	69	68	70	71	73	[62	42	24	33	56	71	74]	65	0
9				[54	44	62	70	58	48	51	40	35	42	51	52	50	53	52	52	54	60	44	22	31	45	59	72]		0
10	✓	✓		[73	79	70	65	54	31	38	45	66	78	82	82	89	88	(80	50)	50	59	61	54	49	45	42	40]	61	0
11	✓	✓		[34	36	26	28	28	59	82]	99	90	93	96	125	137	151	153	157	148	138	147	135	121	126	117	129	102	0
12	✓	✓		146	172	148	110	102	98	88	99	109	116	119	102	99	91	96	96	74	59	62	73	74	84	78	64	98	1
13	✓	✓	✓	59	64	71	84	81	108	152	179	201	206	189	154	147	121	110	106	102	105	102	[104	73	90	83	73]	115	0
14	✓	✓	✓	[74	81	81	73	62	71	64	71]	81	84	90	81	73	93	111	114	91	90	93	99	109	110	125	117	89	0
15				111	118	102	102	—	—	—	—	71	69	73	74	74	81	83	[81	64	64]	81	81	88	92	89	81		0
16				71	—	—	—	—	—	—	104	125	147	145	154	126	108	[52	41	43	33	42	69	59	56	44	41]		0
17	✓	✓		[33	33	31	33	38	43	52	64]	87	88	101	101	91	93	[71	61	50	42	45	50	49	52	53	52]	61	0
18	✓	✓		[51	52	50	51	50	49	51	50	55	68	71	84	56	42	59	72	54	48	49	57	61	72	83	84]	59	0
19	✓			[82	75	64	64	71]	≷129≶	115	124	127	131	137	148	117	132	117	97	[81	81	53	59	49	56	71	82]	94	1
20	✓	✓		101	106	101	108	126	157	177	181	186	185	149	138	170	[117	58	45	61	51	87	54	48	66	114	143]	114	0
21	✓			[102	92	96	152]	165	166	152	154	168	180	161	167	≷155	153	154	101≶	99	101	95≷	99	93≶	88	86	92	128	1
22				97	[80	59	43	50	52	49	52	51	47	52	53	63	61	62	67	53	52	44	42	46	65]	76	80		0
23				73	81	79	80	82	66	[55	31	54	67	72]	—	—	—	—	—	—	—	—	—	—	[41	41	47	49]		0
24				[54	62]	98	114	117	115	126	135	135	120	92	—	—	—	81	71	76	68	63	70	70	71	63	57		0
25				55	59	55	[45	28	23	21	68]	136	188	171	126	114	117	110	102	96	81	63	63	73	81	90	88		0
26				90	90	83	86	84	75	62	83	104	109	108	92	93	105	104	101	107	[77	72]	83	83	78	81	73		0
27	✓			[71	61	57	56	60	70	118]	197	[158]	201	173	148	138	[102	81]	111	111	115	[31	52	61	46	42	42]	96	0
28	✓	✓		[69	99]	113	136	142	121	105	165	155	(109)	120	119	113	102	97	96	81	82	72	[46	88	41	52	106]	101	0
29																													
30																													
31																													
MEANS * 18 DAYS				79	83	78	82	82	91	98	114	121	123	120	120	120	114	109	104	97	86	79	74	69	71	77	81	95	
MEANS † 15 DAYS				77	84	79	80	79	85	92	105	115	113	113	114	116	111	107	104	97	84	82	75	69	73	79	82	92	
MEANS ‡ 3 DAYS				79	79	84	94	92	106	120	133	146	146	136	127	116	115	116	110	92	86	85	83	89	97	104	99	106	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 349

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1931

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	83	85	88	82	82	53	51	56	56	59	58	64	64	67	65	60	67	74	77	72	78	79	72	72	69	0
2	✓	✓		76	89	75	68	70	53	47	42	40	51	51	56	68	81	79	82	75	82	⌈ 95	191	210	181	187	146⌋	92	0
3	✓	✓		⌈180	146	162	142	165	140	121	111	115	109	98⌋	76	89	84	69	51	⌈119	201	133	128	175	166	167	127⌋	128	0
4	✓	✓		⌈146	168	166	202	219	195	137⌋	86	64	64	71	71	72	78	85	≷102	118	N111	107	123	N 12	73≶	⌈232	303⌋	124	1
5				⌈305	295	293	253	222	303	309	225⌋	≷ Z ≶	⌈128	95⌋	94	93	106	80	70	⌈ 86	119	145	183	189	200	200	175⌋		1
6	✓			⌈181	231	257	280	200⌋	131	98	104	95	77	74	80	74	74	89	98	104	105	⌈155	159	180⌋	126	133	142	135	0
7	✓			⌈141	153	156	150	149	126	116	142	143	130⌋	111	121	123	130	133	129	⌈133	149	181	245	264	202	164	141⌋	151	0
8				⌈141	150	168	169	185	175	159	95⌋	70	60	64	74	78	86	78	82	90	83	91	91	⌈181	Z+	Z+	Z+ ⌋		0
9	✓			⌈318	238	168	95⌋	68	56	51	73	74	64	67	73	76	72	80	89	79	78	≷ 69	-117	81	N 62≷	90	81	87	1
10	✓			62	59	65	56	45	47	47	68	86	95	93	81	77	81	80	95	102	109	103	107	107	111	92	61	80	0
11				55	57	70	≷N 6	N 44	N 34	64≷	90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
12																													
13																													
14																													
15																													
16																													
17	✓			88	86	98	89	85	78	64	79	71	73	78	80	93	90	89	88	99	99	⌈175	201	200	159	194	243⌋	112	0
18	✓	✓		⌈193	167	168	146	121	114	138	109	98	87	92	94	116	138	134	141	159	153	174	141	149	137	138	163⌋	136	0
19	✓	✓		⌈171	203	275	313	368	383	366	317	178	99	81	104	119	139	130	128	133	168	188	190	201	226	219	206⌋	204	0
20	✓	✓		⌈253	268	285	254	163⌋	94	82	86	95	81	87	82	88	82	91	84	82	99	115	126	141	95	99	108	127	0
21	✓	✓	✓	99	90	86	78	76	70	70	73	59	65	67	73	70	73	73	80	76	77	76	56	66	76	95	80	75	0
22	✓	✓	✓	67	61	60	59	56	49	48	61	59	64	64	64	70	69	72	73	73	65	44	⌈ 62	269	283	205	137⌋	89	0
23	✓			⌈214	217	187	179	115	69⌋	52	59	47	43	48	54	60	63	69	76	⌈ 92	107	79	86	129	135	170	225⌋	107	0
24	✓			⌈200	203	210	146	154	154	206	196	264	191	115⌋	84	77	⌈ 86	95	86	124	90	130	218	219	327	306	325⌋	175	0
25				⌈ Z+	Z+	Z+	Z+	Z+	Z+	Z+	143	—	143	124	122	102	98	103	123	140	160	188	205	204	233	220	139⌋		0
26	✓	✓		⌈132	117⌋	106	102	98	90	87	95	98	94	98	94	98	⌈103	136	137	130	153	172	194	208	221	272	192⌋	134	0
27	✓	✓		⌈149	130	159	166	147	⌈102	56⌋	120	116	106	114	126	133	122	124	112	99	105	124	127	171	206	224	218⌋	136	0
28	✓	✓		⌈246	202	164	103⌋	74	69	66	66	64	64	81	86	76	79	70	68	96	102	90	73	⌈143	155	164	202⌋	108	0
29				⌈210	203⌋	—	—	—	—	—	—	⌈138	67⌋	56	54	59	61	⌈ 61	89	91	98	82	93	125	165	205	219⌋		0
30	✓	✓		⌈240	251	185	89⌋	72	61	64	56	52	49	47	43	43	50	52	60	64	70	76	⌈167	241	221	201	186⌋	110	0
31	✓	✓		⌈112⌋	87	86	77	73	64	56	51	52	53	60	60	65	68	74	82	77	82	77	⌈ 76	101	141	143	107⌋	80	0
MEANS ✱ 21 DAYS				160	155	153	137	124	105	96	98	92	82	79	79	83	87	90	91	100	109	116	125	158	161	170	165	117	
MEANS † 14 DAYS				154	147	148	134	127	110	99	95	82	75	76	78	84	88	90	90	98	110	111	123	153	161	173	160	116	
MEANS ‡ 3 DAYS				83	79	78	73	71	57	56	63	58	63	63	67	68	70	70	71	75	83	89	85	95	83	89	87	74	

DESIGNATIONS AND REMARKS:

✱=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 350

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL. mi/h	DIR.	VEL. mi/h	DIR.	VEL. mi/h	DIR.	VEL. mi/h	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr													
1	744.9	26.4	28	33.2	14.3		11.4	ESE	1	NE	8	ESE	..	SSE	..		0		0	Fires in E and SE
2	742.5	26.3	23	34.4	13.2		10.8	SSE	..	..	..	ESE	2	S	4	Ci	1- 3	Ci	4- 6	Fires in several directions; smoky in pm
3	742.1	27.0	28	34.3	16.8		7.6	S	1	..	0	SSW	2	S	3	CiSt	4- 8	CiSt	4- 6	Smoky, especially in am and after 16h
4	741.7	27.8	25	37.4	14.2		7.8	..	0	..	0	W	11	SSW	11	Ci; CiCu; CiSt	6-10	CiSt; ASt; Nb	7-10	Very smoky after 14h5; shower at 20h
5	741.8	20.4	68	28.7	19.3		4.3	S	5	S	13	SSW	2	S	3	Ci; ASt; Cu; CuNb	10- 7	CiSt; ASt; StCu	6- 1	Light shower in am; somewhat smoky
6	740.4	16.8	82	28.1	15.6		7.1	..	0	SSE	3	S	5	SSW	6	ASt; StCu	10- 7	ASt; StCu	6- 1	Dew early; smoky
7	741.5	19.7	70	28.3	15.3		9.8	S	7	SSE	11	S	4	S	6	FrCu; StCu	8- 7	FrCu; StCu	6- 4	Dew early; hazy
8	742.0	21.5	50	32.6	12.1		11.2	S	3	ESE	8	SE	1	S	2	Ci	1- 3	Ci	1- 3	Dew early
9	741.2	29.6	29	37.2	17.8		10.5	..	0	NE	14	NNE	4	NNE	6	Ci; CiSt; StCu	1- 3	CiSt; StCu; CuNb	4- 8	Light rain in pm; shower at 22h
10	738.1	26.4	56	30.7	18.8	T	8.3	..	0	NNE	8	WNW	16	W	7	Ci; CiCu; ASt; StCu	7- 9	Ci; CiCu; ASt; StCu	7- 8	Smoky throughout
11	738.3	19.7	65	24.8	17.1	0.07	7.0	NW	4	W	9	W	17	SW	1	Ci; ASt; Cu; FrCu	8- 5	ASt; Cu; FrCu	4- 6	Rain early; misty at 9h
12	745.6	16.8	55	24.8	13.8	0.02	9.9	..	0	SSE	16	SSE	5	S	7	ASt	8- 1	CiSt	1- 3	Rain early
13	746.5	17.0	46	26.6	11.4		11.0	SSE	2	E	10	ESE	5	SSE	3		0		0	Thin haze over sky; air also hazy
14	743.2	22.7	26	31.1	11.3		9.3	SSE	1	NE	7	ENE	3	S	4	Ci; CiSt; ASt	3- 8	CiSt; ASt; ACu	7- 8	
15	740.2	27.1	22	32.2	16.7		1.8	..	0	NE	6	NE	4	..	0	Ci; ACu; ASt	7- 8	Ci; ACu; ASt	7- 8	Fires in N and S
16	739.9	26.4	35	34.8	16.0		9.5	SE	1	E	6	ESE	4	SE	4	CiCu; ACu	8- 2	CiCu; ACu; Cu	2- 6	Lightning at 20h
17	737.9	26.7	48	34.3	20.1		10.9	ENE	4	ENE	4	SE	4	SSW	2	Ci; CiCu; CiSt	1- 3	Ci; CiSt; Cu	4- 6	
18	739.1	23.7	63	30.7	14.6		5.3	..	0	SSW	3	SW	6	SSW	5	CiSt; CiCu; ACu	4- 8	CiSt; CiCu; ACu; Cu	7- 8	Smoky throughout
19	742.8	20.4	60	28.3	14.8		11.2	S	5	SSE	12	SSE	6	S	7	CiCu	4- 6	CiCu	3- 1	Dew early; smoky throughout
20	747.3	18.5	59	27.1	11.7		11.3	S	1	ESE	15	ESE	12	ESE	2	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Smoke noted at some distance
21	746.5	23.2	38	31.2	15.0		10.9	ESE	3	ENE	13	ENE	9	ENE	1	CiSt	1- 3	CiSt	1- 3	
22	744.0	23.7	25	32.3	14.5		10.6	..	0	NE	9	NE	3	SSW	2		0		0	
23	743.1	25.0	20	35.3	9.3		10.5	..	0	NNE	2	..	0	..	0		0		0	Smoky in pm, especially after 17h
24	741.9	24.9	27	36.1	9.9		9.8	SSW	1	..	0	W	4	..	0	CiSt; ACu	1- 3	CiSt; ACu	1- 3	Dew early; thick smoke in early am and late pm
25	740.7	21.4	62	32.5	11.4		3.0	..	0	..	0	WSW	1	SSW	6	CiSt; ASt; ACu	7-10	CiSt; ASt; ACu	7-10	Heavy dew early; heavy smoke all day; dew at night
26	740.4	19.7	62	28.5	14.2		10.7	S	1	SSE	9	SSW	2	SSW	9	CiSt; ASt	1- 3		0	Dew early; smoky in pm
27	742.5	18.0	57	28.4	11.6		10.7	SSE	4	SE	13	SE	6	S	4		0		0	Dew early; smoky throughout
28	740.6	22.1	49	33.9	14.7		10.3	SSE	1	SE	4	SSE	2	S	1	Ci; CiCu	1- 3	Cu; CuNb	1- 3	Lightning 19h to 20h5
29	738.8	25.0	44	33.3	13.5		9.6	S	1	..	0	..	0	SSW	3	CiSt; ACu	1- 3	CiSt; ACu; Cu	4- 6	Smoky in pm
30	736.6	21.3	59	30.5	15.9		10.6	SSE	2	SE	8	SE	5	SSW	2	CiSt; ACu; Cu	1- 3	CiSt; Cu	1- 3	Fires in W and SW
31	737.0	22.0	62	30.1	15.8		10.7	SE	3	ESE	6	SE	3	S	1	StCu	0- 1	StCu	0- 1	
SUM						0.09														
MEAN	741.6	22.8	46	31.4	14.5		9.1		1.7		7.2		4.9		3.7					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 351

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	127	120	123	139	168	184	208	217	179	134	150	126	137	148	124	112	113	[106	73	94	113]	150	163	161	140	0
2	✓	✓		163	170	189	195	206	230	261	290	306	250	240	203	160	146	124	113	[73	80	57	22	28	51	46	41]	152	0
3	✓	✓		[39	39	41	43	43	44	44	46	51	55	66	65	63	59	47	41	25	25	28	26	23	30	36	32]	42	0
4	✓	✓		[37	37	36	32	36	43	55]	90	108	108	121	139	137	119	97	[69	43	57	63	52	37	41	43	41]	68	1
5				[44	40	33	28	28	30	32	30	41	46	51]	65	72	72	92	112	[105	58	43	40	33	39	44	59]		1
6																													
7				—	—	—	—	—	—	—	—	[69	69]	81	86	94	98	105	120	[83	80	68	52	44	72	97	126]		0
8																													
9				[66	83	108	179]	237	248	259	221	192	167	150	161	163	[170]	—	—	—	—	—	—	—	—	—	—		1
10																													
11				116	117	110	106	112	≷123≷	109	106	97	87	84	83	83	83	84	83	97	98	124	137	138	139	150	127		1
12				150	149	149	152	139	106	115	126	126	132	110	—	—	—	[70	66	66	80	86	81	86]	101	98	95		—
13																													
14	✓			157	167	192	208	218	222	233	217	206	206	188	[153	76	76	106	83	84	127]	153	160	[41	52	47	52]	143	—
15	✓			[58	73	110	150]	236	283	291	277	236	219	200	190	192	182	186	184	177	178	190	197	[149	193]	221	235	192	—
16	✓			229	244	275	291	306	290	261	264	233	204	210	192	167	155	139	145	138	128	[98	124	113	126]	166	188	195	—
17				219	208	(208)	—	—	—	—	—	207	190	193	179	152	(149)	153	144	128	105	[39	30	41	50	58	59]		0
18	✓	✓		[69	69	69	72	86	94	83	97	90	73	83	86	81	79	79	81	68	66	69	87	90	94	97	87]	81	0
19	✓	✓		[81	50	37	28	28	25	25	34	55	86	108	83	69	41	58	69	68	50	52	55	52	55	52	48]	55	0
20	✓	✓		[47	43	43	57	97]	156	179	167	150	142	137	142	142	142	141	152	149	123	108	98	99	135	139	150	122	0
21	✓	✓		179	192	207	230	244	250	250	244	237	221	203	184	178	174	175	[137]	178	159	170	168	170	201	203	204	198	0
22	✓	✓		218	233	250	257	265	288	276	257	219	193	182	175	182	179	164	178	177	175	182	[203	46	52	58	70]	187	0
23				[66	55	63	79	106	152]	167	193	243	248	219	193	166	156	166	167	[91	52	55	66	73	69	59	44]		0
24				[40	39	34	40	43	43	43	57	52	68	94]	131	137	[117	75	54	39	41	29	41	46]	—	—	—		0
25				—	—	—	—	—	—	—	—	—	[46	52	54	55	55	55	43	44	51	41	43	153	41	47	84]		0
26	✓	✓		[95	113]	137	139	138	137	127	121	131	124	116	119	123	[109	30	36	58	23	29	30	43	66	68	102]	92	0
27	✓	✓		[103	117	98	95	95	97	113	97	91	83	69	66	59	69	72	83	84	92	83	97	69	65	66	59]	84	0
28	✓	✓		[59	73	99	152]	185	208	224	230	246	[233	168	152	193	167	163	155]	138	116	138	163	[112	86	81	73]	151	0
29	✓			[73	75	55	51	54	52	43	52	95	153]	203	206	200	197	[189	84	84	68	106	102	75	68	65	55]	100	0
30	✓	✓		[55	57	80	150]	178	188	192	192	207	217	235	224	221	196	179	138	142	137	138	[92	55	66	63	70]	145	0
31	✓	✓		[138]	155	167	181	193	200	214	235	222	211	218	206	181	152	152	141	135	132	135	[141	127	94	86	128]	164	0
MEANS * 18 DAYS				107	113	123	137	154	166	171	174	170	162	161	151	142	133	124	111	107	102	104	106	80	90	94	100	128	
MEANS † 14 DAYS				101	105	113	126	140	153	161	166	164	152	150	141	138	127	115	108	104	96	95	95	76	85	86	90	120	
MEANS ‡ 3 DAYS				175	182	193	209	226	241	245	239	212	183	178	162	166	167	154	142	147	129	117	120	127	162	168	172	176	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 352

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	118	104	111	116	142	183	188	211	185	135	153	134	141	160	133	117	114	⌈106	71	78	89⌋	125	151	147	134	0
2	✓	✓		153	145	172	187	194	228	256	301	318	259	255	220	161	146	119	108	⌈ 70	72	52	12	21	41	33	31⌋	148	0
3	✓	✓		⌈ 28	31	31	35	35	38	40	42	43	47	60	55	54	62	42	36	21	12	22	19	18	23	24	25⌋	35	0
4	✓	✓		⌈ 27	31	31	29	29	31	44⌋	72	101	100	115	143	135	118	99	⌈ 71	38	42	51	48	40	34	38	31⌋	62	1
5				⌈ 31	29	25	23	21	22	23	24⌋	—,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
6																													
7																													
8																													
9																													
10																													
11																													
12																													
13				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	114	⌈ 70	83⌋	100	98	95	124		–
14	✓			129	136	158	168	188	202	200	208	214	212	190	⌈160	73	71	98	74	78	117⌋	147	149	⌈ 28	34	27	34⌋	129	–
15	✓			⌈ 34	45	82	125⌋	221	269	262	267	251	230	211	214	200	193	192	190	180	170	169	188	⌈127	167⌋	183	190	182	–
16	✓			201	210	243	253	283	264	249	270	241	209	218	210	179	162	139	144	138	127	⌈ 89	115	105	129⌋	150	180	188	–
17				199	191	172	184	179	189	213	201	200	187	191	189	155	153	(167)	147	128	98	⌈ 37	28	37	46	46	39⌋		0
18	✓	✓		⌈ 49	52	51	59	65	72	76	97	92	69	81	82	76	70	73	73	60	59	59	73	72	72	80	64⌋	70	0
19	✓	✓		⌈ 60	35	24	17	15	15	16	26	49	91	115	82	64	38	54	62	61	46	39	44	37	37	37	35⌋	46	0
20	✓	✓		⌈ 28	27	27	35	74⌋	150	188	179	167	151	136	150	151	153	147	157	153	125	97	86	83	117	116	127	118	0
21	✓	✓	✓	156	186	210	231	250	260	260	250	252	230	212	200	190	187	182	⌈135⌋	168	155	165	176	162	180	176	186	198	0
22	✓	✓	✓	191	211	221	234	258	256	249	240	229	208	198	192	200	189	171	188	185	172	179	⌈168	37	37	46	48⌋	179	0
23				⌈ 38	35	45	59	92	135⌋	160	170	249	—	—	—	—	—	—	—	—	—	—	—	—	—	⌈ 49	35⌋		0
24				⌈ 34	34	26	34	34	35	28	34	35	53	86⌋	136	139	⌈120	70	43	32	37	26	32	30	24⌋	—	—		0
25				—	—	—	—	—	⌈ 26	26	—	49	38	37	38	41	45	45	49	39	46	34	37	46	29	35	74⌋		0
26	✓	✓		⌈ 74	93⌋	115	115	117	104	111	123	137	141	128	130	137	⌈114	27	30	59	22	27	24	37	45	39	61⌋	84	0
27	✓	✓		⌈ 71	98	76	70	71	74	102	90	93	83	72	63	60	70	72	81	86	90	82	77	52	48	45	45⌋	74	0
28	✓	✓		⌈ 39	51	73	128⌋	189	219	239	240	260	⌈245	181	157	197	174	166	168⌋	138	115	130	141	⌈ 83	62	59	59⌋	146	0
29	✓			⌈ 49	40	39	37	37	35	27	32	71	157⌋	220	231	229	219	⌈192	89	90	68	(70	71)	72	59	49	41⌋	93	0
30	✓	✓		⌈ 37	37	60	150⌋	185	197	201	211	224	239	261	260	261	232	203	152	159	147	138	⌈ 74	48	46	46	50⌋	151	0
31	✓	✓		⌈125⌋	150	168	187	188	208	222	251	240	232	238	225	194	171	160	148	138	130	130	⌈140	115	74	69	117⌋	168	0
MEANS * 18 DAYS				87	93	105	121	141	156	163	173	176	169	169	162	150	140	126	112	108	99	95	94	68	74	76	82	122	
MEANS † 14 DAYS				83	89	98	114	129	145	157	167	171	159	158	150	144	135	118	109	104	92	89	83	64	67	68	73	116	
MEANS ‡ 3 DAYS				155	167	181	194	217	233	232	234	222	191	188	175	177	179	162	147	145	129	111	113	111	141	148	153	171	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	81	67	69	64	57	51	46	43	47	56	66	66	77	76	83	86	70	78	90	90	105	94	91	90	73	0
2.	✓	✓	✓	80	74	64	53	48	49	54	58	61	58	60	64	63	65	66	64	74	78	74	77	81	102	87	65	67	0
3	✓	✓	✓	55	56	60	64	56	53	52	60	57	57	58	56	61	64	64	60	58	56	55	52	61	61	53	57	58	0
4	✓	✓	✓	57	48	37	35	36	30	32	40	48	50	51	59	64	65	52	42	61	71	74	71	76	96	104	76	57	0
5	✓	✓		69	69	70	68	64	57	57	56	48	48	48	57	60	62	55	62	65	57	[67	139	138	144	145	122]	76	0
6				[83]	44	48	44	38	≷N 14	N 29	159	Z+	160	96≷	74	75	78	82	75	77	87	79	87	114	91	83	77		1
7	✓	✓		71	65	57	52	53	49	46	48	53	52	58	69	82	89	89	[94	106	121	122	156	213	191	143	226]	96	0
8	✓	✓		[206]≷	113	73	53	55	49	53≷	80	77	67	≷ 38	N 48≷	58	60	57	◡62	[103	77	97	118	130	101]	93	82	81	1
9	✓			86	85	95	101	114	116	111	100	87	85	89	86	94	88	95	102	[108	121	135	152	166	164	156	125]	111	0
10				105	136	117	104	86	78	63	83	95	104	91	81	77	77≷	75	Z+	Z+	Z	Z	114≷	100	115	138	120		1
11	✓			≷137≷	116	129	122	109	91	52	52	53	78	76	78	77	85	80	96	98	99	90	92	98	102	98	95	92	0
12	✓			96	78	58	65	61	55	55	N 25	−13	−17	N 35	92	74	N 4	N 35≷	86	86	105	117	≷147≷	134	105	108	98	70	1
13	✓			125	135	111	101	99	66	69	66	78	81	86	99	101	90	89	96	111	96	79	61	70	88	98	112	92	0
14	✓	✓	✓	138	134	118	129	116	104	83	68	51	60	74	75	83	86	95	103	100	87	99	95	101	107	105	122	97	0
15	✓			113	113	120	133	109	82	68	60	48	45	50	53	66	73	86	82	82	77	62	66	[124	170	161	161]	92	0
16	✓	✓		[147	125	111	86]	62	59	53	48	46	58	61	70	76	75	81	86	66	61	65	58	46	69	94	95	75	0
17	✓	✓		88	87	94	93	83	78	73	78	68	64	57	60	66	74	[98	98	107	103	116	136	142	133	147	177]	97	0
18	✓	✓		[185	184	165	151	117]	90	65	61	51	48	44	48	51	61	66	78	82	83	68	74	78	95	81	74	88	0
19	✓	✓	✓	58	56	49	50	47	44	42	52	67	69	72	72	73	81	73	91	72	61	70	[85	104	92]	72	74	68	0
20	✓	✓		70	68	72	[112	120	220	226	121]	77	57	51	55	64	64	64	66	69	[68	99	117	134	124	129	130]	99	0
21	✓			[158	159	163	167	158	107	130	115]	56	44	46	52	55	55	N 59	60	52	[97	112	107	92	156	151	142]	104	1
22				[143	131	140	175	137]	94	81	108	91	82	66	65	64	62	64≷	73	Z	120	70	77≷	98	94≷	76	92≷		1
23				≷111	Z	Z−	N 55	Z−	74	94	Z+	N 90	N 76	−39	Z	Z	Z	Z	N 43	83	N 34	N 18	N 60	N 56	76	N 66≷	71		2
24	✓	✓	✓	86	73	[74	74]	64	56	46	44	46	60	78	78	91	82	86	90	87	78	73	76	73	70	66	53	71	0
25	✓	✓	✓	51	53	46	48	47	38	31	36	51	69	68	80	70	94	85	84	87	78	69	65	77	79	94	95	66	0
26	✓	✓	✓	89	99	98	94	82	82	74	73	57	39	42	52	60	65	80	83	73	89	86	92	86	94	96	106	79	0
27	✓	✓	✓	102	111	99	82	68	65	63	65	77	81	81	86	81	86≷	82≷	82	111	107	115	116	102	102	99	95	90	0
28	✓	✓	✓	95	95	[77	66	50	54]	48	51	54	58	86	85	89	88	86	96	95	90	86	95	83	89	103	117	81	0
29	✓	✓		95	[133	182	135]	123	102	83	74	47	44	54	62	64	73	73	78	81	78	83	100	82	73	76	79	86	0
30	✓	✓	✓	82	82	78	75	73	66	57	51	54	57	78	86	78	90	99	95	101	79	70	93	77	99	90	74	78	0
31																													
MEANS * 26 DAYS				101	95	91	87	80	74	68	62	56	56	62	69	72	73	76	82	85	84	87	97	103	108	105	105	82	
MEANS † 20 DAYS				95	90	85	79	71	70	64	60	57	58	61	66	71	75	77	80	83	80	84	95	99	101	98	100	79	
MEANS ‡ 12 DAYS				81	79	72	70	62	58	52	53	56	60	68	72	74	78	79	81	82	79	80	84	86	90	88	85	74	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 354

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	739.6	23.4	56	30.6	15.3		10.3	..	0	ENE	6	ESE	3	SE	4	CiSt	0- 1	CiSt; Cu; StCu	1- 3	Clearing in evening
2	742.2	23.4	56	30.4	16.4		10.0	..	0	ENE	7	ESE	2	ESE	2	ACu	0- 1	StCu	1- 6	
3	743.0	21.6	56	29.7	16.2		10.3	NE	2	NE	6	ESE	3	SSE	1	ACu; ASt	1- 3	ACu; ASt	1- 3	
4	742.3	23.7	46	31.0	15.5		0.7	..	0	ENE	7	..	0	..	0	ACu; ASt; CuNb	4- 8	ACu; ASt; CuNb	7- 8	
5	742.2	24.7	46	33.4	14.4		10.2	..	0	..	0	SE	1	S	6	CiCu; CuNb; Nb	1- 3	CuNb	1- 3	Lightning at 19h and through night
6	742.1	23.8	65	30.1	18.3	T	5.2	..	0	NE	6	NE	13	NE	7	ACu; ASt; CuNb	7- 8	ASt; Cu; CuNb	4- 6	Thundershower at 7h
7	742.2	23.7	38	31.4	16.5		6.9	..	0	N	3	WSW	6	SSE	2	CiSt; CiCu; ACu; StCu	1- 6	CiCu; ACu; ASt; StCu	7- 8	
8	742.1	22.0	51	27.8	18.0	0.01	2.0	..	0	ESE	5	SE	4	SE	3	CiSt; ASt; Cu; Nb	7- 8	CiSt; ASt; StCu	7- 8	Light showers early
9	741.3	19.6	69	26.8	12.7		9.7	..	0	S	1	SSW	6	S	4	CiCu; ACu; StCu	1- 3	CiCu; ACu; StCu	1- 3	Dew early
10	742.7	16.5	64	26.1	7.7		7.4	SSE	1	SSE	8	..	0	SW	1	CiSt; ACu; StCu	1- 6	ASt; FrCu; Nb	7-10	Dew early
11	739.3	18.5	65	25.1	9.5	T	5.1	WSW	1	..	0	WNW	12	NW	1	ASt; Cu; StCu	3- 8	ASt; Cu; StCu	8- 4	Light shower early
12	735.7	17.3	94	20.6	11.8	0.11	1.9	NNW	2	NW	7	WSW	26	..	0	Nb	10	FrCu; Nb	9- 4	Drizzling rain
13	747.0	14.7	64	19.1	4.0	0.12	6.1	WSW	1	..	0	SSE	3	S	1	CiSt; CiCu; ASt; Cu	3- 8	CiSt; CiCu; ASt; Cu	8- 4	Mist early
14	749.5	14.6	57	21.3	5.7	T	8.5	..	0	ESE	2	SE	3	SSE	2	CiSt; Cu	4- 6	CiSt; Cu	7- 8	Dew early
15	747.7	15.5	56	25.2	9.0		8.1	..	0	SE	2	E	1	S	2	CiSt; ACu	9- 7	Ci; CiCu	6- 1	
16	745.1	19.0	39	25.4	11.2		4.0	..	0	..	0	..	0	..	0	Ci; CiSt; ACu	9-10	Ci; CiSt; ACu; ASt	10	
17	742.8	20.5	38	28.4	12.1		9.4	..	0	V	3	SSE	11	S	5	CiCu	1- 3	CiCu	1- 3	
18	744.2	18.5	46	30.4	9.9		10.0	S	1	ESE	8	ENE	5	SE	2	CiSt; CuNb	1- 3	CiSt; CuNb	1- 3	
19	743.5	22.7	36	30.3	13.2		8.5	..	0	NNE	5	N	1	..	0	CiSt; ACu; ASt	1- 3	CiSt; ASt; StCu	4- 6	
20	743.4	17.7	72	31.1	13.5	T	6.2	..	0	..	0	WNW	1	..	0	CiSt; ASt	9-10	CiSt; ASt; StCu	7- 8	Fog early
21	742.0	21.5	42	29.6	12.6		8.6	..	0	..	0	ENE	1	SSW	1	CiSt; CiCu	8- 7	CiSt; ACu; StCu	6- 1	Dew early
22	738.8	16.0	93	22.7	12.4	T	0.9	..	0	..	0	W	3	..	0	CiCu; ACu; ASt; StCu	7- 9	Cu; StCu; Nb	7- 8	Mist early; rain in evening and at night
23	737.7	11.8	92	15.0	10.3	0.13	3.3	WSW	9	WSW	9	WSW	11	WSW	1	CiSt; ASt; Cu; Nb	7-10	CiSt; ASt; Cu; Nb	7- 8	Showers
24	742.6	11.6	82	12.3	3.2	0.20	7.9	..	0	..	0	WSW	2	..	0	ASt; StCu	1- 3	ASt; StCu	4- 6	Mist early
25	743.0	14.1	78	21.3	4.0	T	10.1	..	0	..	0	..	0	..	0	ASt; StCu	2- 6	Ci; CiSt; ASt	1- 3	Dew early
26	741.5	13.3	78	20.0	8.5	T	7.4	..	0	..	0	..	0	SSW	1	Ci; CiSt; ASt	10- 7	Ci; CiSt; ASt	6- 4	Mist early
27	741.3	16.6	71	22.1	9.5	T	5.0	..	0	..	0	WSW	4	..	0	Ci; CiSt; ASt; StCu	2- 6	ASt; Cu	7- 8	Mist early; light shower 14h5
28	744.0	15.0	75	21.6	5.7	T	3.4	..	0	..	0	SSW	2	..	0	ASt; Cu; Nb	10- 7	StCu	6- 4	Mist early
29	745.8	13.3	68	20.6	7.2	T	9.7	..	0	SE	1	SE	2	S	1	ASt	1- 3	Ci; CiSt; ASt	1- 3	Dew early
30	744.9	15.0	51	23.9	5.3		9.5	SSW	1	ENE	1	ESE	2	SW	1	Ci; CiSt	1- 3	Ci; CiSt	1- 3	
31																				
SUM						0.57														
MEAN	742.6	19.3	61	25.6	11.0		6.9	0.6		2.9		4.3		1.6						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 355

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	159	177	192	226	249	265	267	304	267	226	189	174	164	155	150	127	133	149	137	149	126	161	157	164	186	0
2	✓	✓	✓	175	188	226	231	264	(301	263	229)	206	188	173	155	137	124	124	126	114	113	122	126	135	112	132	187	173	0
3	✓	✓	✓	212	215	212	201	201	203	203	202	187	184	183	177	157	159	150	128	140	138	126	175	159	142	163	161	174	0
4	✓	✓	✓	174	201	237	240	237	249	250	227	187	177	174	138	122	113	130	138	137	137	126	126	123	103	102	137	166	0
5	✓	✓		161	155	157	152	164	164	175	215	254	265	239	202	185	175	174	173	164	142	⌈130	65	74	76	75	81⌋	159	0
6	✓			⌈116⌋	202	213	226	240	≷234≷	250	213	175	159	152	151	140	⌈105⌋	123	137	140	127	150	164	189	194	202	210	176	1
7	✓	✓		213	225	237	241	230	248	260	277	262	250	237	190	161	(141)	135	⌈113	63	98	112	86	66	62	66	62⌋	168	0
8	✓	✓		⌈ 62	74	89⌋	99	99	86	81	89	124	150	163	151	152	152	152	154	⌈ 89	(90	91	91)	93	130⌋	165	177	117	1
9				160	182	180	175	156	152	152	152	168	178	179	166	149	144	144	127	⌈112	90	86	77	86	98	98	99⌋		0
10				⌈ 99⌋	—	—	—	—	—	—	—	123	117	114	127	140	142	142	≷136≷	144	≷140	127≷	124	117	114	98	107		1
11				≷114≷	130	121	124	126	144	174	194	204	174	149	144	136	138	136	138	140	140	140	141	151	163	170	177		0
12				189	190	202	199	202	203	—	—	≷149	117	112	109	102	102	114≷	117	117	114	127	≷121≷	130	136	138	155		1
13				142	151	156	168	169	208	193	212	194	168	151	114	99	110	104	98	105	126	142	164	163	141	127	109		0
14	✓	✓	✓	110	114	128	140	137	137	156	218	276	234	185	152	140	128	136	137	138	151	140	152	150	144	155	130	154	0
15				138	138	141	147	152	178	199	229	268	290	—	—	—	—	—	—	—	—	—	—	—	⌈104	102	105⌋		0
16	✓	✓		⌈117	135	163	224⌋	271	292	305	320	334	277	241	203	185	185	179	180	190	187	182	251	267	217	185	190	220	0
17	✓	✓		216	220	229	224	218	215	207	215	240	268	281	258	226	189	⌈121	163	138	124	114	102	116	127	113	100⌋	184	0
18	✓	✓		⌈ 91	89	(102	114)	138⌋	178	206	225	273	311	333	318	304	269	251	213	203	(203	207	215)	202	182	199	215	210	0
19	✓	✓	✓	267	298	305	298	298	295	291	282	239	230	220	202	194	193	182	182	193	187	166	⌈164	127	169⌋	202	206	225	0
20	✓	✓		229	204	190	⌈140	150	74	65	128⌋	174	236	251	235	213	193	179	187	177	⌈157	112	100	97	105	107	100⌋	158	0
21				—	—	—	—	—	—	—	—	216	255	263	—	204	(194)	194	193	188	⌈118	104	104	113	72	86	81⌋		1
22				⌈ 93	103	103	89	110⌋	117	135	123	128	130	136	150	163	160	160	152	≷133≷	164	163	155	165	177	≷193	197≷		1
23	✓			177	≷151	138	140	127≷	161	154	161	154	150	≷127	147	114≷	136	≷128≷	136	142	141	142	151	149	151	150	165	146	2
24	✓	✓	✓	163	178	⌈165⌋	189	216	230	243	281	257	206	169	150	142	138	142	155	156	164	175	175	188	194	215	237	189	0
25	✓	✓	✓	240	251	265	278	292	321	351	333	267	230	(189	163)	163	154	155	156	152	150	159	173	178	190	188	177	216	0
26	✓	✓	✓	175	166	166	168	155	170	180	206	254	319	318	254	224	203	201	201	206	168	174	160	166	175	178	166	198	0
27	✓	✓	✓	177	175	187	203	210	206	204	203	203	190	188	178	178	169	165	165	163	154	150	159	163	177	188	203	182	0
28	✓	✓	✓	211	220	248	⌈267	281⌋	269	267	292	296	250	202	185	178	174	174	164	166	175	177	175	178	166	150	127	208	0
29	✓	✓		137	⌈117	113	127⌋	149	150	165	224	316	342	295	240	217	204	194	197	203	⌈159	131	154	175⌋	203	213	216	193	0
30	✓	✓	✓	216	236	250	268	286	324	361	398	382	347	254	215	222	208	190	190	203	177	193	218	225	177	182	216	247	0
31																													
MEANS * 22 DAYS				173	181	191	200	210	217	223	238	242	236	216	193	178	167	161	160	155	150	146	151	152	153	158	165	184	
MEANS † 20 DAYS				175	182	193	202	212	219	225	243	250	244	224	197	183	171	164	162	156	151	146	151	150	151	157	163	186	
MEANS ‡ 12 DAYS				190	202	215	226	236	248	253	265	252	232	204	179	168	160	158	156	158	155	154	163	160	159	168	176	193	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 356

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	158	169	192	250	271	289	298	(335)	306	260	204	195	189	176	168	146	155	165	144	157	135	167	166	175	203	0
2	✓	✓	✓	185	209	245	258	300	302	265	227	221	204	187	185	159	(145)	144	143	134	116	124	134	135	112	135	185	186	0
3	✓	✓	✓	207	211	204	188	193	194	205	204	193	194	198	194	183	191	191	156	166	155	134	172	152	145	174	168	182	0
4	✓	✓	✓	181	225	263	261	253	263	265	244	199	186	187	146	126	118	136	144	144	135	125	125	114	92	103	131	174	0
5	✓	✓		145	147	156	156	175	187	204	242	286	291	272	236	224	205	204	187	184	165	[144	66	70	70	62	70]	173	0
6	✓			[115]	212	212	225	252	276	251	180	[114]	155	165	158	155	[113]	134	144	142	132	147	152	170	185	193	193	174	1
7	✓	✓		195	204	224	231	227	242	262	285	289	289	280	218	177	165	(154)	[124	65	88	100	72	55	46	58	46]	171	0
8	✓	✓		[45	59	83]	≷103	103	114	123≶	101	128	150	175	164	168	162	166	166	[88	111	92	83	78	120]	156	158	121	1
9				166	186	—	—	—	—	—	—	—	—	179	168	147	144	143	125	[105	83	81	74	72	77	70]	—		0
10				—	—	—	—	—	—	—	—	116	113	115	124	137	137	—	—	—	—	—	—	113	103	83	92		1
11				89	114	106	105	—	—	—	—	222	191	166	165	154	155	151	151	144	137	143	142	144	151	173	—		0
12				—	—	—	—	—	—	—	—	≷176	144≶	125	124	124	130	—	—	—	—	—	—	—	—	—	—		1
13				—	—	—	—	—	—	—	—	—	—	136	102	86	103	104	85	91	112	124	147	152	133	103	102		0
14	✓	✓	✓	92	100	115	115	121	128	145	215	293	251	188	156	143	135	133	134	134	145	126	131	122	123	135	124	146	0
15				128	126	135	132	145	176	205	227	291	302	—	—	—	—	—	—	—	—	—	—	—	[82	86	81]		0
16	✓	✓		[92	117	147	205]	244	269	285	316	344	286	255	213	180	174	159	165	167	176	177	236	247	202	155	165	207	0
17	✓	✓		203	215	222	217	218	217	215	207	243	284	308	284	245	205	[122	156	126	104	95	94	105	114	94	78]	182	0
18	✓	✓		[70	70	81	101	130]	168	214	239	299	329	357	343	336	293	252	218	201	195	195	180	176	156	178	206	208	0
19	✓	✓	✓	246	291	318	317	321	318	314	289	247	251	236	225	218	198	187	174	166	167	147	[142	103	148]	178	192	225	0
20	✓	✓		220	215	192	[139	148	60	63	135]	165	242	275	261	240	214	194	188	175	[154	100	84	79	88	(89	84]	158	0
21				—	—	—	—	—	—	—	—	215	267	283	—	218	215	(185)	192	188	[112	93	90	103	65	69	70]		1
22				—	—	—	—	—	—	—	—	114	124	134	145	167	156	155	145	≷146≶	125	144	147	141	154	≷174	177≶		1
23	✓			≷144	137	144	142≶	144	126	118	≷115≶	135	137	145	≷124	137≶	128	145	144	135	143	135	124	131	122	126	123	134	2
24	✓	✓	✓	124	156	[139]	183	211	226	233	251	263	215	175	146	135	132	135	138	(114	133)	142	141	154	165	185	210	171	0
25	✓	✓	✓	223	237	271	277	280	327	330	308	256	194	176	164	148	137	145	138	133	135	136	147	152	164	152	144	199	0
26	✓	✓	✓	155	147	149	134	152	156	178	193	247	310	318	253	224	195	186	172	177	158	156	138	145	147	145	137	182	0
27	✓	✓	✓	136	137	151	176	201	204	203	196	177	175	178	178	178	174	166	166	144	133	115	112	124	135	143	167	161	0
28	✓	✓	✓	174	178	[207	217	245	263]	280	263	263	243	191	176	176	178	167	146	146	140	142	136	137	143	117	102	185	0
29	✓	✓		117	[94	72	102]	123	137	158	215	326	336	300	247	225	205	195	195	202	[155	114	122	158]	195	194	203	183	0
30	✓	✓	✓	204	215	224	234	237	266	325	343	344	336	253	223	225	205	178	165	165	158	168	194	209	158	168	188	224	0
31																													
MEANS * 22 DAYS				156	170	182	192	207	215	224	232	243	242	228	204	190	175	166	160	148	144	134	134	134	136	141	148	179	
MEANS † 20 DAYS				159	170	183	193	208	216	228	240	254	251	236	210	195	180	169	161	149	144	134	133	132	134	139	147	182	
MEANS ‡ 12 DAYS				174	190	206	218	232	245	253	256	251	235	208	187	175	165	161	152	148	145	138	144	140	142	150	160	186	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 357

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	66	66	67	58	52	44	47	49	60	76	74	76	79	85	98	95	81	89	85	69	55	56	62	64	69	0
2	✓	✓		67	73	71	60	63	56	46	42	51	39	48	44	47	29	38	47	39	46	33	27	31	30	34	24	45	0
3				51	49	44	42	44	N 19	31	17	N 8	17	39	57	49	32	−46	−5	−164	42	Z−	Z−	Z	Z	Z	Z		2
4				Z	Z	Z	Z	Z−	Z−	Z−	Z−	Z−	Z−	N 20	N 30	17	38	39	N 15	Z−	38	53	51	51	63	70	64		2
5	✓	✓		84	76	79	81	82	99	112	90	85	92	95	91	95	84	88	N 36	98	99	94	88	85	91	99	99	88	1
6	✓	✓	✓	108	116	141	136	137	124	110	102	90	80	86	97	100	95	107	117	112	108	89	87	86	92	100	87	104	0
7	✓	✓	✓	89	85	68	72	63	65	57	65	59	57	70	81	73	70	86	71	76	56	[48]	53	61	60	71	63	67	0
8				59	52	51	47	52	51	51	55	65	81	79	82	90	90	90	91	81	66	86	Z−	Z	Z	Z	Z		2
9				Z−	Z−	N124	N 98	147	Z+	Z−	N121	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		2
10				—	—	—	—	—	—	—	—	Z	Z	Z	Z	Z	Z	—	—	91	81	75	69	76	81	111	101		2
11				94	111	102	107	118	103	102	115	101	N 86	91	N 77	83	Z	102	—	—	—	N101	N 70	87	102	105	111		1
12				113	109	109	99	98	112	95	107	149	104	82	97	Z	92	89	95	Z	61	95	96	86	91	91	95		1
13	✓	✓		N 81	107	108	104	108	95	96	91	86	95	99	100	113	120	131	121	118	[89	70	95	112]	121	111	117	104	1
14	✓			96	98	104	93	88	74	60	55	65	77	73	86	86	91	91	94	96	86	79	73	65	73	68	43	80	0
15	✓			49	51	45	49	48	42	35	39	56	40	60	51	68	68	70	66	92	89	83	114	133	116	122	117	71	0
16				117	95	102	115	111	92	94	102	95	94	83	82	90	95	86	86	81	64	52	45	114	112	—	—		0
17				—	—	—	—	—	—	—	—	57	52	61	64	65	62	66	62	59	51	70	64	57	52	60	77		0
18	✓	✓	✓	83	96	81	64	51	48	48	50	44	51	55	64	60	65	72	67	71	54	50	61	66	81	95	92	65	0
19				77	68	60	60	53	44	47	43	35	32	40	47	—	—	—	45	47	31	25	22	30	35	33	29		0
20	✓	✓		31	30	30	34	32	30	27	29	35	38	38	43	64	60	70	70	79	82	69	57	61	70	78	78	51	0
21	✓	✓		75	99	100	120	111	85	81	91	86	82	N 69	88	90	94	88	72	91	79	73	68	62	77	89	104	86	1
22	✓	✓	✓	103	81	94	77	66	61	65	65	64	71	69	77	74	75	82	87	82	70	53	66	64	66	70	79	73	0
23	✓	✓	✓	73	66	60	57	55	52	57	53	[54]	60	61	65	63	70	73	83	93	73	66	73	73	76	91	69	67	0
24	✓	✓	✓	69	60	66	65	60	61	57	52	49	52	57	68	73	79	78	82	81	59	51	64	67	57	56	68	64	0
25	✓	✓	✓	69	72	70	79	83	82	74	69	71	73	78	79	91	95	98	105	115	103	86	75	75	86	81	77	83	0
26	✓	✓	✓	76	73	70	69	64	62	60	56	57	67	76	86	92	104	105	112	109	96	86	85	92	95	88	85	82	0
27	✓	✓	✓	90	73	81	68	66	59	60	64	76	86	83	94	99	99	100	116	104	68	55	60	52	49	56	60	76	0
28	✓	✓	✓	57	48	57	56	53	51	49	48	68	69	69	77	78	78	92	86	83	76	68	70	65	56	64	73	66	0
29	✓			87	95	87	92	82	79	77	65	57	59	65	65	60	66	68	72	57	52	53	56	61	69	69	67	69	0
30	✓			62	57	56	50	57	52	46	40	52	51	56	61	65	70	70	70	70	44	38	45	47	49	53	65	55	0
31	✓	✓	✓	67	65	61	59	52	51	51	48	64	73	78	78	79	79	81	81	69	56	51	48	48	51	52	53	62	0
MEANS * 21 DAYS				75	76	76	73	70	65	63	60	63	66	69	75	79	80	85	83	86	75	66	68	70	72	77	75	73	
MEANS † 17 DAYS				76	76	77	74	70	66	65	63	65	68	71	77	81	81	87	85	88	77	66	67	68	71	76	76	74	
MEANS ‡ 12 DAYS				79	75	76	72	67	63	61	60	63	68	71	78	80	83	89	92	90	76	66	68	67	69	74	72	73	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 358

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	741.8	15.7	50	26.1	6.1		5.8	..	0	..	0	..	0	..	0	Ci; CiSt; CiCu; ACu	4- 7	Ci; CiSt; CiCu; ACu	4- 6	
2	738.5	15.0	49	26.7	6.2		2.0	..	0	..	0	NNE	2	..	0	CiSt; ACu; ASt; Nb	7- 8	CiSt; ASt; Nb	9-10	Rain at intervals
3	738.7	15.0	92	18.3	14.2	0.03	0.1	..	0	ESE	2	ESE	13	SE	14	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7- 8	Rain at intervals
4	735.8	14.4	96	15.9	13.0	2.85	0.0	SE	11	ESE	7	S	6	N	5	NB	10	Nb	10	Heavy showers early; drizzling later
5	741.3	14.7	83	18.8	12.7	0.25	5.3	SSW	3	S	2	SW	5	..	0	CiSt; Cu; FrCu	4- 6	ASt; Nb	7-10	Dew early; few drops rain in pm
6	742.8	11.1	65	16.3	8.5	0.04	1.2	SSW	3	..	0	SW	5	..	0	ASt	10- 7	ASt	6- 4	Dew early
7	741.7	10.5	81	17.7	4.2	T	0.4	..	0	..	0	..	0	..	0	ASt	10	ASt	10	Dew early
8	736.6	13.5	69	22.3	7.5		4.2	..	0	NNE	1	NNE	15	NNW	18	CiSt; ACu; ASt	7- 8	CiSt; ACu; ASt	9-10	Dew early; rain at night
9	732.8	14.5	58	16.6	10.7	0.61	4.5	WNW	21	NW	14	WNW	14	N	3	Ci; ASt; FrCu; Nb	5- 6	Ci; ASt; FrCu; Nb	7-10	Showers
10	731.0	14.8	94	18.1	12.4	0.31	5.1	NNW	7	NW	18	WNW	23	NW	2	FrCu; CuNb; Nb	7-10	FrCu; CuNb; Nb	7-10	Showers at intervals
11	732.5	16.0	84	20.1	11.5	0.10	6.0	NW	6	NW	13	WNW	23	NW	2	Cu; FrCu; Nb	4- 8	Cu; FrCu; Nb	9-10	Occasional showers
12	735.3	16.5	77	19.2	13.9	0.16	5.9	NW	3	WNW	7	W	22	W	7	Cu; FrCu; Nb	4- 6	Cu; FrCu; Nb	7-10	Occasional showers
13	745.1	12.0	69	16.1	6.7	0.09	9.3	SW	4	SE	2	SSE	2	..	0	CiSt	1- 3	CiSt; StCu	1- 3	Mist early; clear at night
14	745.7	10.0	74	16.1	2.1	T	9.3	..	0	..	0	NNW	1	..	0		0	Cu	0- 1	Mist early, possibly frost
15	739.8	11.7	71	15.6	5.7	T	0.0	..	0	..	0	SSE	2	SW	1	CiSt; ASt; StCu; Nb	7-10	CiSt; ASt; StCu; Nb	4- 6	Dew early; drizzling at intervals
16	748.5	11.5	73	17.1	7.0	0.03	9.4	SSE	5	SE	7	SSE	6	S	1		0	Ci	0- 1	Mist early; thin haze throughout
17	753.0	11.4	63	18.8	4.0		9.3	S	1	..	0	SE	5	SSE	2	Ci; CiSt	0- 1	Ci	0- 1	Dew early
18	751.6	13.8	66	21.1	6.4		9.4	SSE	2	..	0	ESE	2	SSE	2		0	Ci; CiSt	1- 3	Dew early
19	746.0	15.0	57	21.2	7.0		9.3	..	0	ESE	3	SE	2	..	0	CiSt; ASt	1- 3	CiSt; ASt	1- 3	Dew early
20	741.7	16.3	75	20.6	8.0		2.7	..	0	..	0	W	10	..	0	Ci; ASt; Cu; FrCu	3-10	ASt; Cu; CuNb	10- 4	Dew early
21	743.5	14.0	75	17.7	8.3	0.02	7.1	WSW	1	WSW	2	SW	11	..	0	ACu; StCu; CuNb	4- 8	ACu; StCu; CuNb	7- 8	Occasional showers
22	749.8	10.6	65	14.9	3.5		9.2	SSW	2	..	0	SE	6	SE	1	CiSt; ACu	1- 3	CiSt; ACu	1- 3	Dew early
23	750.5	13.2	52	15.1	2.4		9.2	..	0	..	0	ESE	3	S	1		0	CiSt; ACu	1- 3	Dew early
24	751.6	11.3	63	17.2	2.5		9.4	..	0	..	0	SE	6	SSW	1	CiSt; ASt	1- 3	CiSt; ASt	1- 3	Dew early
25	754.5	10.6	70	15.1	8.5		9.5	SE	3	SE	9	SE	11	SE	4	ACu; ASt	1- 3	ACu; ASt	1- 3	Hazy
26	756.5	10.4	62	16.2	3.4		9.5	SE	1	ESE	7	E	12	ESE	2		0		0	
27	754.5	10.3	56	18.8	2.7		9.3	ENE	2	NE	8	E	4	..	0		0		0	Thin haze over part of sky
28	751.0	10.5	58	20.0	2.1		9.3	..	0	..	0	..	0	SW	2		0		0	
29	750.4	11.0	75	18.3	4.0		9.2	..	0	..	0	..	0	SSE	2	ACu	0- 1		0	Dew early; thin haze over sky at 9^h
30	749.9	11.5	72	19.9	4.8		9.2	SSE	1	ENE	2	NE	3	..	0	CiSt	0- 1	ACu	1- 3	Dew early; cloudy in evening with ACu
31	747.4	12.6	63	21.1	7.5		7.0	..	0	..	0	N	1	..	0	CiSt; CiCu	1- 3	ACu	4- 8	
SUM						4.49														
MEAN	744.5	12.9	70	18.5	7.0		6.4	2.5		3.4		6.9		2.3						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 359

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	242	265	274	300	317	(345	372)	387	351	270	245	210	195	184	187	189	195	195	181	195	182	203	193	187	244	0
2	✓	✓		195	207	231	267	274	270	294	318	(311)	331	284	244	206	183	205	199	198	217	265	278	288	305	327	290	258	0
3	✓			279	274	305	311	281	278	248	245	235	244	232	242	235	235	218	229	171	232	205	162	105	109	92	77}	218	2
4	✓			{77	84	87	90	196	173	210	189}	223	239	246	245	232	242	254	{266	316	279}	231	217	221	210	205	192	205	2
5	✓	✓		195	194	195	204	194	181	171	192	198	207	199	185	173	(163)	160	146	170	170	168	182	184	183	173	171	182	1
6	✓	✓	✓	159	117	132	138	144	156	173	187	184	182	159	155	145	157	170	159	168	173	168	171	183	168	168	185	163	0
7	✓	✓	✓	189	214	242	245	248	249	257	266	267	248	211	187	184	185	193	184	177	194	⌈168⌋	218	214	244	239	256	220	0
8				270	290	289	293	293	305	307	283	266	231	214	187	171	160	166	157	160	159	159	{113	73	71	113	134}		2
9	✓			{122	85	99	111}	129	{134	95}	145	146	{133	142}	143	140	{145}	146	154	154	157	159	159	161	173	168	165	140	2
10				161	159	156	152	149	149	149	146	{134	112	112	122	120	124}	146	140	137	144	149	152	149	149	156	161		2
11	✓			159	150	149	143	146	149	139	144	139	129	{76	99	106	106	124}	(124	124	126)	145	154	146	149	150	149	134	1
12				154	146	146	156	161	148	146	148	145	142	—	—	—	—	131	144	{124}	132	—	146	142	139	143	144		1
13	✓	✓		148	148	159	161	163	168	168	173	178	171	156	144	129	109	98	92	93	107	113	129	122	134	133	132	139	1
14				—	—	—	—	—	—	—	—	271	229	199	179	159	159	150	140	140	137	138	156	159	162	183	198		0
15				195	210	242	246	254	268	279	288	293	289	290	266	232	217	195	181	171	167	163	140	122	137	146	161		0
16	✓			168	170	171	168	168	171	170	178	183	188	181	170	157	156	159	146	156	171	165	149	104	115	122	123	159	0
17	✓			113	117	126	123	133	150	162	183	245	279	257	240	221	205	207	185	184	189	157	185	194	206	204	215	187	0
18	✓	✓	✓	210	207	232	262	266	282	292	327	351	283	255	222	215	205	189	179	166	181	185	184	185	171	156	166	224	0
19	✓			194	205	220	244	244	276	283	314	354	356	305	281	256	(255)	249	244	⌈220⌋	254	265	⌈199⌋	228	243	253	294	260	0
20	✓	✓		306	314	323	315	314	327	340	373	370	329	284	245	215	194	171	168	161	161	171	182	195	183	174	171	249	0
21	✓	✓		171	156	150	152	156	167	174	172	171	168	161	154	156	151	156	157	161	161	155	167	173	168	151	150	161	1
22	✓	✓	✓	144	171	170	183	190	183	193	212	227	207	195	183	168	168	165	151	155	160	161	166	171	183	187	189	178	0
23	✓	✓	✓	209	232	235	254	270	281	281	305	⌈321⌋	284	231	188	196	187	199	194	160	160	159	161	172	171	172	211	218	0
24	✓	✓	✓	244	279	282	288	289	282	282	304	344	329	265	229	221	220	207	199	205	220	211	206	205	207	216	217	248	0
25	✓	✓	✓	216	223	257	259	232	220	228	235	242	244	221	220	183	170	157	149	157	168	173	178	185	205	227	240	208	0
26	✓	✓	✓	259	266	260	261	282	282	292	305	303	256	216	181	171	(157)	150	145	155	165	167	173	181	183	207	224	218	0
27	✓	✓	✓	231	256	265	272	277	283	(304	305)	276	240	196	183	181	174	178	⌈157	132	185	193	196	183	231⌋	256	270	226	0
28	✓	✓	✓	282	305	284	305	299	295	296	290	279	254	221	209	194	194	194	182	179	170	181	194	205	218	207	181	234	0
29				166	162	162	170	170	182	183	203	254	259	259	260	242	228	227	232	232	229	233	229	223	210	231	254		0
30				268	279	294	295	292	309	(320	320)	288	282	270	232	204	195	204	203	207	⌈195	217⌋	231	249	256	260	272		0
31	✓	✓	✓	277	282	282	290	294	292	293	290	277	233	217	216	214	206	199	195	199	194	207	220	255	270	294	309	250	0
MEANS * 24 DAYS				200	205	214	223	229	233	238	252	257	242	215	199	187	181	181	175	173	183	181	184	185	193	195	198	206	
MEANS † 17 DAYS				216	226	234	244	248	251	259	273	274	249	219	197	185	177	175	167	167	175	178	188	193	202	205	209	213	
MEANS ‡ 12 DAYS				222	235	243	255	259	262	272	284	285	252	219	199	189	184	182	174	171	180	180	188	193	204	210	220	219	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 360

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	224	257	263	292	291	315	340	321	300	266	259	217	195	184	171	177	169	178	168	188	169	197	189	187	230	0
2	✓	✓		188	201	224	265	273	278	299	314	(306)	338	296	257	219	197	207	206	203	215	265	282	289	299	321	299	260	0
3	✓			263	257	268	298	265	282	246	255	253	259	247	252	250	249	262	254	236	261	272	263	340	360	423	404	280	2
4	✓			383	403	383	385	314	298	292	296	289	286	265	262	254	247	267	291	359	291	228	215	226	207	187	182	284	2
5	✓	✓		176	178	181	186	171	155	149	160	186	188	185	180	168	163	(147)	147	138	120	120	137	145	141	135	137	158	1
6	✓	✓	✓	127	96	101	98	81	94	113	127	165	165	156	145	131	148	158	139	138	123	124	127	137	128	134	161	130	0
7	✓	✓	✓	159	176	203	209	245	210	229	236	254	236	190	174	179	176	157	168	142	174	[151]	181	177	199	210	245	195	0
8				264	287	292	300	288	291	296	279	252	226	215	195	177	169	167	156	161	152	157	149	—	—	—	170		2
9	✓			162	135	100	117	118	111	117	130	138	126	130	149	155	155	154	149	150	151	148	151	157	158	147	148	140	2
10				147	143	151	148	137	139	137	137	130	—	128	—	—	—	—	—	—	—	—	—	—	149	131	137		2
11	✓			138	137	137	132	138	139	138	139	139	129	100	116	118	117	130	(127	124	121)	125	147	129	129	130	130	130	1
12				121	128	131	128	128	131	137	142	120	131	120	129	146	(137	119)	138	148	127	—	119	117	112	118	120		1
13	✓	✓		127	121	119	109	110	111	111	124	157	161	149	141	120	97	180	76	75	93	96	100	89	100	116	110	116	1
14				—	—	—	—	—	—	—	—	226	215	204	181	168	154	148	140	128	117	128	131	149	149	139	151		0
15				197	196	230	232	250	259	270	251	272	273	256	263	230	218	205	—	—	—	—	—	—	117	117	140		0
16	✓			147	158	155	137	[119]	139	141	146	178	180	186	171	159	159	167	149	157	151	159	136	86	101	104	89	145	0
17	✓			96	106	108	106	120	141	142	171	246	287	271	253	234	216	215	195	195	186	139	166	179	180	187	179	180	0
18	✓	✓	✓	181	167	204	237	253	262	275	305	332	295	272	235	226	209	194	186	168	178	177	175	177	166	147	149	215	0
19	✓			174	187	209	225	253	268	291	308	356	361	319	298	280	280	(256)	256	[227]	257	259	[191]	225	236	265	305	262	0
20	✓	✓		307	329	319	328	325	344	355	378	370	330	297	265	233	203	171	167	151	149	149	165	178	170	158	162	250	0
21	✓	✓		142	117	115	117	108	131	142	139	147	151	157	149	152	154	151	161	152	137	128	140	148	140	130	120	139	1
22	✓	✓	✓	121	139	137	161	160	161	171	187	224	218	195	178	169	169	168	151	151	151	151	146	150	154	158	161	164	0
23	✓	✓	✓	180	197	226	256	267	274	280	300	[289]	279	235	191	206	192	199	190	152	149	148	149	149	150	158	189	209	0
24	✓	✓	✓	227	247	262	272	280	272	280	291	321	308	265	229	217	225	219	206	201	205	195	178	183	190	195	196	236	0
25	✓	✓	✓	204	188	238	261	232	300	208	216	245	247	229	223	188	178	161	156	157	168	168	169	175	(221)	228	235	208	0
26	✓	✓	✓	243	245	244	227	256	282	299	306	312	272	234	188	175	166	(138)	137	143	157	156	151	159	169	188	188	210	0
27	✓	✓	✓	191	223	223	246	252	262	(279	272)	253	229	202	179	169	168	168	[135	117	174	187	186	145	209]	234	266	207	0
28	✓	✓	✓	288	300	271	274	306	307	298	307	261	246	246	(238	226)	209	187	173	167	156	167	177	189	197	207	184	233	0
29				165	143	155	—	—	—	—	—	278	265	269	272	252	227	236	226	235	222	215	215	207	197	—	—		0
30				—	—	—	—	—	—	—	—	275	280	270	239	210	201	195	192	187	[188	207]	208	235	234	238	253		0
31	✓	✓	✓	252	247	257	251	250	297	288	278	247	231	224	217	214	209	190	186	170	178	186	198	233	245	263	274	233	0
MEANS * 24 DAYS				196	200	206	216	216	226	228	238	249	241	221	204	193	186	184	174	168	172	169	172	176	185	192	196	200	
MEANS † 17 DAYS				211	216	222	233	232	244	243	252	261	251	230	213	204	199	194	186	182	185	179	183	186	198	205	210	213	
MEANS ‡ 12 DAYS				200	207	219	232	239	253	255	262	267	249	226	201	191	186	176	167	156	166	165	169	170	185	193	203	206	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 361

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN. TIME)

JUNE 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	57	58	60	48	48	39	42	39	46	44	59	75	77	85	77	73	78	65	65	57	60	58	52	53	59	0
2	✓	✓	✓	51	57	61	59	58	55	51	48	(49)	49	56	52	59	64	67	65	62	47	52	59	59	57	61	60	57	0
3	✓	✓		58	56	61	60	55	49	40	39	42	49	55	65	82	83	73	87	81	64	52	−3	62	69	91	92	61	1
4	✓			111	107	108	115	109	114	91	101	125	102	95	96	96	95	109	122	148	142	116	135	118	133	109	131	114	0
5	✓			126	122	122	125	123	105	86	85	78	79	80	89	96	86	91	101	83	61	81	70	72	77	68	64	90	0
6	✓	✓	✓	55	48	51	48	60	60	52	53	57	66	74	86	73	79	77	75	78	72	53	52	44	48	48	60	61	0
7				60	63	73	73	73	68	53	Z−	Z−	N 38	N 9	N105	70	N 19	81	65	59	N 0	72	60	74	72	78	66		1
8				68	90	133	169	172	154	126	70	96	96	107	129	96	Z	N112	Z	Z	Z−	60	Z	108	126	120	118		1
9				110	Z	131	131	Z	N105	102	104	108	112	104	118	102	94	94	85	83	83	79	82	92	88	90	81		1
10				85	86	85	91	109	90	82	69	73	81	83	82	86	97	96	103	100	—	—	—	—	—	—	66		0
11	✓	✓	✓	67	68	64	60	60	52	60	53	61	61	77	72	72	77	70	73	72	60	52	47	50	56	48	60	62	0
12	✓	✓		49	51	52	57	51	44	43	40	43	52	60	69	77	73	70	69	64	54	51	57	53	47	83	N 35	56	1
13	✓	✓		N 21	N 14	N 43	51	70	61	77	73	82	83	67	68	75	73	73	77	66	56	78	76	84	86	87	82	68	1
14	✓	✓	✓	82	90	89	83	82	75	69	68	68	69	74	70	75	83	103	96	91	87	78	83	79	81	73	68	80	0
15	✓	✓	✓	64	64	64	66	66	64	65	60	64	64	69	86	83	85	79	86	89	61	51	60	54	43	47	42	66	0
16				43	44	47	51	64	65	52	52	53	46	45	55	65	65	64	61	Z	Z	Z	N 64	116	N 87	N 59	Z		1
17				98	95	102	Z	94	95	82	82	98	98	98	87	87	79	95	84	88	72	68	61	64	71	60	63		1
18	✓	✓	✓	60	57	55	47	47	53	59	42	57	49	53	56	60	64	60	60	52	55	57	60	73	75	72	64	58	0
19				57	65	68	66	57	64	59	55	48	—	—	—	69	73	73	73	69	57	—	—	—	65	69	70		0
20				56	57	65	66	60	—	—	—	43	47	55	69	73	69	65	65	64	54	55	49	60	56	59	54		0
21	✓	✓	✓	64	69	53	47	57	60	64	53	51	50	57	61	68	70	68	73	67	51	53	59	60	69	75	70	61	0
22				66	69	64	64	57	56	52	44	51	53	65	73	N 66	78	N 61	86	83	79	74	73	78	—	96	107		1
23	✓	✓	✓	115	121	129	131	121	120	108	99	90	83	80	91	95	98	93	90	87	107	96	86	79	81	73	70	98	0
24				64	60	68	71	54	57	57	44	65	—	—	—	—	—	—	—	—	—	56	55	56	53	61	60		–
25	✓	✓	✓	56	48	49	48	51	47	47	44	48	(48)	47	57	61	(65	67)	78	83	61	51	52	58	53	57	60	56	0
26				49	58	55	53	48	43	44	44	48	60	70	—	—	—	—	—	—	—	—	—	—	64	60	51		–
27				78	95	82	67	44	54	Z−	Z−	Z	Z	Z	N134	Z	Z	142	215	Z+	Z+	Z+	116	90	89	97	98		1
28	✓	✓		107	99	117	133	141	124	130	142	137	115	122	143	130	129	N 64	N107	140	139	121	119	106	111	97	103	120	1
29				—	—	—	—	—	—	73	73	87	83	82	100	98	124	100	(113	99)	98	108	103	77	79	76	78		0
30	✓	✓	✓	92	74	67	60	66	60	64	46	52	56	74	77	98	74	86	94	92	86	81	70	69	70	65	75	73	0
31																													
MEANS * 17 DAYS				73	71	73	73	74	70	68	64	68	66	71	77	81	81	78	84	84	75	70	67	69	71	71	70	73	
MEANS † 15 DAYS				67	65	68	67	69	64	65	60	63	63	68	75	79	80	75	80	80	71	66	62	66	67	69	66	69	
MEANS ‡ 11 DAYS				69	69	67	63	65	62	62	55	58	58	65	71	75	77	77	78	77	68	63	62	62	63	61	62	66	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 362

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	745.6	12.2	61	21.6	7.4		3.7	..	0	..	0	ESE	2	SSE	4	CiCu; ACu	1- 6	StCu	7- 8	Clearing in evening
2	746.3	13.0	57	20.0	5.4		8.8	..	0	..	0	WSW	4	W	1	Ci; CiSt; CiCu	1- 3	Ci; CiCu; ASt; ACu	1- 3	
3	743.7	11.2	55	19.4	2.1		8.6	SW	4	SW	3	ESE	2	..	0	CiSt	1- 6	CiSt; ASt; StCu	4- 6	Light rain in evening
4	747.0	12.0	75	16.2	8.5	0.05	6.8	..	0	..	0	S	9	SW	1	ASt; FrCu; Nb	7- 8	StCu	4- 6	
5	748.7	9.0	80	16.7	2.2		8.5	..	0	..	0	ESE	1	..	0	CiSt; Ci	1- 6	Ci; CiSt	7- 8	Dew and frost early
6	742.4	7.5	82	18.8	2.8		5.6	N	1	..	0	N	11	..	0	Ci; CiSt; ASt	10- 7	Ci; CiSt	6- 1	Dew early
7	736.6	12.6	99	14.2	7.3	0.52	0.0	N	3	..	0	W	2	..	0	ASt; StCu; Nb	10	ASt; StCu; Nb	10	Rain from early hours and through day
8	737.4	12.5	84	13.9	8.0	0.15	4.1	..	0	N	3	NW	10	WSW	3	ASt; FrCu; Nb	1-10	ASt; FrCu; Nb	7-10	Fog early; heavy intermittent showers; lightning in evening
9	744.7	10.8	79	14.4	5.1	0.32	6.7	WSW	3	SW	4	WSW	6	..	0	ASt; Cu; FrCu; CuNb	1- 6	ASt; Cu; FrCu; CuNb	7- 8	Clearing in evening
10	749.1	8.7	74	11.4	4.3		8.9	..	0	SSE	1	SSE	4	..	0	ASt; StCu	1- 3	StCu	4- 6	Dew early; frost at night
11	748.2	7.1	79	12.9	-0.6		9.2	..	0	..	0	NE	2	..	0		0		0	Dew early; frost at night
12	744.4	5.5	77	15.2	-2.0		7.9	..	0	..	0	WNW	4	..	0	ASt	1- 3	ASt; StCu	4- 6	Dew early; rain at night
13	744.6	11.5	99	14.0	5.2	0.13	2.8	..	0	..	0	SSE	6	SSE	3	ASt; Cu; CuNb; Nb	9-10	ASt; Cu; CuNb; Nb	7- 8	Frost at night
14	750.3	8.3	73	12.9	4.3		8.8	SE	6	ESE	11	ESE	13	SE	6	CiSt; StCu	1- 3	CiSt; StCu	4- 8	Dew early
15	747.4	8.2	61	14.6	3.5		8.2	E	2	SE	3	E	6	..	0	ACu; ASt	1- 3	StCu	4- 8	Dew early
16	743.3	6.1	98	17.6	0.9		3.5	..	0	N	2	NW	9	WSW	11	ACu; ASt; StCu	7-10	ASt; Cu; CuNb; Nb	10	Fog until 8h5; showers in pm; dew at night
17	744.8	9.2	70	12.4	3.9	0.27	5.9	WSW	1	..	0	SW	2	..	0	ASt	1- 6	ASt; Cu; StCu	7- 8	Clear at night, with dew
18	748.0	6.9	85	11.6	1.3		7.0	..	0	..	0	ESE	1	SE	2	CiSt; CiCu; ACu	1- 3	CiSt; ASt; StCu	4- 8	Mist early; dew at night
19	750.0	6.6	80	14.7	0.8		8.8	..	0	..	0	ESE	4	SSE	3	CiSt	0- 1	ASt	0- 1	Dew early; dew at night
20	749.1	7.4	76	15.0	1.4		8.9	SSE	1	..	0	E	2	SE	2	CiSt	0- 1		0	Dew early; dew at night
21	744.8	7.5	76	17.6	0.9		7.8	..	0	..	0	..	0	..	0	CiSt; ACu; Cu	1- 3	ACu	4- 8	Frost early; dew at night
22	741.8	12.0	68	17.0	3.3		6.1	..	0	..	0	SW	9	SW	1	ASt; Cu; CuNb	1- 8	ASt; Cu; CuNb	7- 8	Dew early; occasional showers; dew at night
23	746.9	8.1	73	13.5	2.2	T	8.2	SW	2	..	0	..	..	..	..	Ci; ASt; ASt; StCu	1- 8	Cu; StCu	8- 4	Mist early
24	749.5	7.6	86	15.6	-1.0		8.8	..	..	..	..	..	0	..	0	Ci; ASt; StCu	1- 3	ASt; StCu	4- 6	Mist and frost early; cloudy in evening
25	746.2	8.4	78	16.9	2.9		8.9	..	0	W	1	N	2	..	0	Ci; ASt	1- 3		0	Mist and frost early
26	741.5	6.6	70	18.6	-0.6		8.8	..	0	..	0	N	6	..	0	Ci; ACu	1- 3	Ci; ACu	1- 3	Frost early
27	732.1	13.1	99	14.6	7.0	0.19	2.1	N	13	NNW	1	WNW	15	..	0	Ci; Cu; Nb	10	Cu; Nb	10	Rain early, and showers during day; clearing in evening
28	736.4	13.2	88	17.4	6.1	0.24	4.1	WNW	2	WNW	18	WSW	15	..	0	ASt; CuNb; Nb	7-10	ASt; CuNb; Nb	7-10	Showers
29	745.3	9.5	100	14.9	5.3	0.06	2.5	..	0	..	0	WSW	3	..	0	FrCu; StCu	7- 8	FrCu; StCu	4- 6	Few light showers
30	747.7	9.0	100	17.1	4.5		4.8	..	0	..	0	W	4	..	0	CiCu; ACu; StCu	6- 8	Ci; ACu; StCu; CuNb	7- 8	Dew early; occasional light showers
31																				
SUM						1.93														
MEAN	744.8	9.0	79	15.7	3.4		6.5		1.3		1.6		5.3		1.3					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 363

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED (120° EAST MERIDIAN MEAN TIME)

JUNE 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	302	302	299	328	348	368	359	(349	343	325)	258	218	193	⌈142⌋	184	182	180	186	168	203	200	228	264	278	259	0
2	✓	✓	✓	277	270	276	292	292	307	319	326	356	340	300	284	253	(220)	218	212	218	224	217	206	216	232	223	238	263	0
3	✓	✓		259	258	266	262	275	292	323	358	376	324	298	284	240	216	211	210	212	218	218	187	187	184	180	170	250	1
4				156	157	156	158	155	155	156	164	158	154	154	150	146	144	⌈128	108	84	92	102	106	124⌋	138	122	104		0
5				108	106	108	120	131	157	192	217	253	250	193	184	193	193	192	176	184	203	196	224	216	214	221	248		0
6	✓	✓	✓	276	301	323	343	334	331	334	320	300	272	239	216	218	206	211	214	208	211	224	232	264	274	280	272	267	0
7				254	238	203	193	208	229	244	≷172	142	266	162	158≷	154	≷142≷	152	144	156	≷144≷	166	178	180	191	⌈190	232⌋		1
8				⌈236	204	124	124	122	128	122	203⌋	223	209	(170)≷	133	146	140	160	119	145	136	154	143≷	155	162	167	176		1
9	✓			172	≷155≷	167	≷178	146	179	188	181≷	179	175	169	168	166	163	(170)	168	170	178	179	176	180	184	190	192	174	1
10				186	192	186	176	176	180	186	203	206	202	190	172	145	125	110	103	107	125	152	166	168	180	184	200		0
11	✓	✓	✓	216	227	253	275	277	299	198	325	⌈300⌋	298	242	206	200	192	186	180	178	176	188	214	211	217	238	241	231	0
12	✓	✓		264	286	294	300	325	340	366	377	380	353	287	229	204	182	176	179	176	184	197	204	212	238	268	288	263	1
13	✓	✓		≷288	295≷	259	228	166	175	196	196	175	180	182	187	191	174	146	157	169	169	181	187	172	169	176	190	192	1
14	✓	✓	✓	192	188	194	204	228	230	235	236	241	238	229	214	193	180	166	157	162	167	175	180	193	211	232	250	204	0
15	✓	✓	✓	270	282	278	265	272	278	290	299	313	288	240	206	173	162	180	182	192	⌈190	209	215	194	254	287	319⌋	243	0
16				—	—	—	—	—	—	—	—	277	277	296	266	228	(205)	192	—	—	—	—	—	—	≷144	149	148≷		1
17	✓			168	167	179	≷179≷	184	203	206	220	196	174	172	172	175	179	184	181	188	197	191	202	205	209	241	250	193	1
18	✓	✓	✓	240	275	274	301	304	⌈253	246⌋	311	253	239	245	215	193	194	200	205	217	215	211	218	209	217	227	257	238	0
19	✓			263	253	253	254	275	275	289	301	332	350	292	251	208	178	182	188	206	196	204	211	216	222	236	256	245	0
20	✓			287	300	280	287	288	290	301	314	329	300	268	236	215	214	212	208	216	222	208	215	217	229	250	275	257	0
21	✓	✓	✓	272	265	293	328	304	296	298	316	373	385	337	288	241	224	212	208	216	228	228	240	264	266	265	280	276	0
22	✓			264	262	280	272	286	300	322	328	(343	347)	289	224	205	203	194	190	180	181	184	180	170	166	158	143	236	1
23	✓	✓	✓	⌈136	133	133	139	145	154	164	178⌋	190	192	181	168	146	(154)	169	158	146	122	127	156	168	178	184	205	159	0
24	✓			228	226	228	228	300	287	263	295	(268)	205	202	193	192	187	180	168	168	163	180	179	194	205	196	203	214	
25	✓	✓	✓	217	240	265	271	252	248	232	274	310	313	310	286	260	238	220	206	205	211	228	238	223	262	264	275	252	0
26	✓			292	299	337	337	364	362	372	388	418	364	286	242	210	202	204	192	190	192	193	217	244	256	278	280	280	
27	✓			242	193	188	202	206	215	≷200	186	203	139	143≷	155	≷144	146≷	154	158	≷158	148≷	160	178	181	181	184	158	176	1
28	✓	✓		168	174	168	148	144	142	144	139	136	139	142	140	144	140	133	136	140	148	146	151	161	162	157	166	149	1
29	✓			166	184	185	⌈191	190	172⌋	234	235	(232)	230	217	193	181	181	178	181	176	179	181	170	200	⌈202⌋	220	228	196	0
30	✓	✓	✓	220	250	288	313	298	307	324	388	397	360	397	205	193	(182)	181	180	180	(185	191	196	202)	206	220	194	252	0
31																													
MEANS * 24 DAYS				237	241	248	255	259	263	267	285	289	272	247	216	197	186	185	183	185	187	191	198	203	215	226	234	228	
MEANS † 15 DAYS				240	250	258	266	264	268	269	293	296	283	259	223	203	187	186	184	187	189	194	202	205	220	231	242	233	
MEANS ‡ 11 DAYS				238	248	261	278	278	279	273	302	307	295	271	228	206	190	193	189	191	192	197	209	213	231	244	255	240	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 364

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1931

DAY	*	†	‡	0-	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	278	270	271	308	314	330	340	(337	315	317)	278	217	188	⌈131⌋	178	187	181	175	149	185	184	209	252	257	244	0
2	✓	✓	✓	265	265	261	273	282	287	307	304	348	340	306	296	265	244	216	215	210	218	(220	223	226)	228	224	235	261	0
3	✓	✓		254	263	273	273	261	291	303	323	366	337	315	287	245	225	215	199	205	207	206	210	(196)	181	168	150	248	1
4				—	—	—	—	—	—	—	—	147	147	147	151	150	142	⌈124	99	70	68	80	73	90⌋	98	107	—		0
5				—	—	—	—	—	—	—	—	249	236	195	—	—	—	—	—	—	—	—	—	200	192	199	226		0
6	✓	✓	✓	274	314	331	353	329	322	322	309	288	270	253	(247	243	238)	233	228	210	196	226	233	253	267	278	271	270	0
7				—	—	—	—	—	—	—	—	≷280	253	186≷	157	155	≷157≷	139	131	142	159	—	—	156	168	⌈175	219⌋		1
8				⌈219	182	—	—	118	120⌋	—	—	215	—	(177)	—	—	≷179	150	170	150	156≷	—	—	—	107	104	97		1
9	✓			116	≷124≷	116	≷94	127	119	113	129≷	139	141	157	156	158	151	152	(149)	150	128	127	125	128	142	148	147	135	1
10				146	150	149	140	—	—	—	—	—	195	188	176	148	130	110	97	—	—	—	—	—	—	180	190		0
11	✓	✓	✓	198	210	230	247	265	270	290	292	⌈288⌋	285	233	208	205	195	178	170	164	158	175	188	207	207	219	239	222	0
12	✓	✓		280	282	⌈270	274⌋	332	355	360	356	354	344	305	250	217	195	185	176	176	185	195	193	207	226	260	281	261	1
13	✓	✓		≷287	280	230	189	145	162	127	150≷	129	(147	179)	189	196	181	149	157	171	177	169	168	151	145	141	150	174	1
14	✓	✓	✓	193	189	194	199	215	215	230	227	235	238	235	215	199	188	167	158	160	157	152	164	187	204	223	245	200	0
15	✓	✓	✓	259	269	265	236	238	272	279	280	309	288	237	206	171	162	180	174	175	⌈177	191	196	178	219	250	262⌋	228	0
16				⌈269	259	235	188	201	215	280	(272)	281⌋	(296)	281	269	244	238	208	≷199	179	157	187	148	137	129	139	126≷		1
17	✓			127	125	124	≷115≷	111	100	120	137	146	156	159	165	169	163	162	159	150	132	136	160	167	168	188	205	148	1
18	✓	✓	✓	225	236	237	238	271	⌈234	236⌋	284	218	234	236	215	191	181	194	197	207	203	200	200	197	188	210	224	219	0
19	✓			237	231	235	241	242	247	269	284	317	345	300	261	210	178	177	187	205	186	185	188	198	199	216	245	233	0
20	✓			265	272	251	264	273	282	280	292	322	299	273	242	215	207	208	211	214	207	194	209	208	216	226	272	246	0
21	✓	✓	✓	261	262	272	321	300	297	291	314	353	359	325	291	236	211	208	195	195	208	211	217	230	233	226	257	261	0
22	✓			243	237	261	258	266	297	309	309	(308	318)	278	228	207	190	181	161	151	141	146	141	139	128	128	111	214	1
23	✓	✓	✓	⌈107	105	96	98	104	107	118	136⌋	160	171	176	167	148	159	(166)	149	142	101	99	117	131	140	162	166	134	0
24	✓			207	186	⌈207	195	264	250	234⌋	265	(216)	171	176	175	180	169	169	160	155	154	160	166	178	196	197	209	193	—
25	✓	✓	✓	216	238	254	254	261	260	237	291	309	312	314	289	270	250	228	207	188	196	207	207	216	233	254	256	248	0
26	✓			274	283	298	323	368	384	379	397	403	362	294	254	217	209	200	189	182	171	⌈180	200	235⌋	236	270	278	274	—
27	✓			236	198	191	200	215	215	≷210	212	200	205	171≷	138	≷142	123≷	139	131	≷128	135	131≷	117	131	139	140	150	167	1
28	✓	✓		137	151	140	140	139	140	140	137	131	138	136	126	127	121	118	119	118	110	109	109	109	116	116	97	126	1
29	✓			126	129	130	⌈121	122	129⌋	197	204	(177)	181	191	168	163	150	157	149	140	136	99	96	169	⌈147⌋	191	198	153	0
30	✓	✓	✓	179	197	243	287	273	283	273	354	365	332	261	199	179	171	170	158	143	131	147	161	169	177	194	169	217	0
31																													
MEANS * 24 DAYS				218	222	224	229	238	244	248	263	266	262	241	216	198	183	180	174	172	166	167	174	183	189	203	211	211	
MEANS † 15 DAYS				228	235	238	246	249	255	257	273	278	274	253	227	205	190	186	179	176	173	177	185	189	198	212	217	221	
MEANS ‡ 11 DAYS				223	232	241	256	259	262	266	284	290	286	259	232	209	194	193	185	180	175	180	190	198	210	227	235	228	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1931

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			73	73	78	80	76	69	⌈91	68	116	124⌋	86	73	74	67	60	73	73	69	67	70	67	64	76	64	76	0
2	✓	✓		69	64	62	74	⌈124	122	76⌋	61	62	85	90	74	≷88	N 57	102	N 61≷	82	70	52	47	48	59	⌈65	64⌋	73	1
3	✓	✓	✓	⌈78	56	65	83	79	65⌋	55	44	51	61	68	63	80	82	72	79	73	53	44	55	60	61	56	56	64	0
4				61	64	61	55	63	57	64	58	60	N 49	N 35≷	53	65	64	54	39	≷60	Z	34	27	44	N 42	Z−	Z−≷		1
5				≷N 7	Z	Z	66	N 36	Z−	Z−	Z	Z−	−11	Z−	Z+	Z−	N 32	−55	63≷	82	65	62	(60)	—	—	(53)	≷N 65≷		2
6	✓	✓		66	≷N 51	52	53	63	50	46	39	48	59	N 55	N 79	54	71≷	77	66	64	56	57	59	51	48	⌈66⌋	57	58	1
7	✓	✓	✓	59	53	48	⌈58	62	60	51	53	52⌋	72	75	77	83	86	89	87	73	75	73	66	65	73	79	77	69	0
8				70	78	86	⌈90	96	63	59	55⌋	81	90	91	68	74	—	—	—	91	70	72	61	82	79	78	82		0
9				98	91	98	96	⌈94	89	114	91⌋	83	72	—	—	—	—	—	75	77	67	55	54	48	60	61	61		0
10	✓	✓	✓	61	66	67	68	61	70	60	66	64	64	68	69	73	73	70	77	77	57	56	60	70	73	76	79	68	0
11	✓	✓	✓	85	63	81	69	79	82	79	76	73	67	64	68	70	65	65	73	73	⌈53	43	61⌋	64	46	60	64	68	0
12				49	52	—	—	—	—	—	—	68	79	82	72	83	56	56	69	69	60	55	53	64	66	56	60		0
13				63	60≷	Z≷	82	76	70	82	86	78	79	80	69	55	79	69	75≷	74	85≷	79	79	70	73	74	87		1
14				88	89	95	96	92	71	64	69	68	70	73	88≷	Z	Z≷	80	79≷	82	103	N 56	Z	Z	Z	Z	N 49≷		1
15				≷N 31	90	Z	Z	Z	−27	N 84≷	165	135	116≷	83	68	72≷	92	91	97	99	90	81	—	—	—	—	—		2
16				≷69	72	107	103	Z	Z−	122	Z	Z	Z	Z	Z	Z	Z	N117	N 88	152	Z	Z	N 90≷	95	87	83	82		2
17				94	103	99≷	Z	Z	103	N 17	95	Z	Z	Z	Z	Z+	Z	N124	108	N 95	N 72≷	102	99	107	98	⌈125	105⌋		2
18	✓	✓		83	84	86	86	70	95	⌈79	91	86⌋≷	70	91	N 31	98	N 68	88	85	N 83≷	86	84	86	79	79	69	82	81	1
19	✓	✓		86	88	⌈118	130	73⌋	72	73	⌈83⌋	83	79	73	73	79≷	78	79	86	75≷	103	92	96≷	86	98	105	116≷	88	0
20				≷115	85	130	124	112	122	105	129	Z	Z−	Z	108	N 43	Z	111	121	86≷	121	124	115	109	100	94	92		1
21	✓	✓		112≷	144	N 70	N126	150≷	147	131	130	130	130	116≷	N109	104≷	113	121	114	113	114	104	101	102	92	86	83	114	1
22	✓	✓		80	87	90	88	87≷	N 74	79≷	84	91	99	95	(94)	94	102	98	100	113	108	102	⌈95	81⌋	98	98	99	93	1
23	✓	✓		118	105	109	106	108	≷107	98	114	(N102)	142	N 94	N 98	93	N 92	118	N103	104≷	109	105	121	105	100≷	96	N 99≷	106	1
24	✓	✓		111	107	117	96	99	116	109	121	108	114	101	92	≷N 70	95	N 89	108	N 60	112	108	102	118	101	N 86	121≷	103	1
25				≷N113≷	117	104	135	126	≷N 97	Z	97	144	N 61	N 89	N 95≷	120	113	105	104	108	≷108	N100	Z	Z	N 80	Z	52≷		1
26				≷N 91	98	N 47	N 71	Z≷	108	127	134	≷122	106	Z≷	107	99	112	124	114	116	104	103	81	74	87	79	72		1
27	✓	✓	✓	70	73	69	66	78	73	67	63	65	77	87	94	88	94	86	87	102	74	79	95	82	88	95	88	81	0
28	✓	✓	✓	83	93	100	98	104	86	91	96	73	70	80	83	94	100	107	98	95	83	66	70	77	81	89	86	88	0
29	✓	✓	✓	80	74	76	82	84	74	78	78	68	75	90	96	89	95	92	99	98	88	79	69	81	87	95	96	84	0
30	✓	✓	✓	99	89	96	91	92	83	72	68	65	65	82	74	92	89	90	96	92	85	98	96	83	87	82	86	86	0
31	✓	✓	✓	73	74	75	83	84	83	78	73	68	70	67	57	55	59	64	72	74	77	73	73	74	83	90	95	74	0
MEANS ✱ 18 DAYS				83	81	81	85	87	85	78	78	78	85	82	78	82	83	87	87	85	82	77	79	77	79	82	84	82	
MEANS † 17 DAYS				83	82	81	86	88	86	78	79	76	82	82	78	83	83	89	88	85	83	77	80	78	80	82	85	82	
MEANS ‡ 9 DAYS				76	73	75	78	80	75	70	69	64	69	76	76	80	83	82	85	84	72	68	72	73	75	80	81	76	

DESIGNATIONS AND REMARKS:

✱=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 366

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.8	13.3	95	17.0	9.0	0.03	0.8	NNW	1	..	0	WNW	..	..	0	ACu; StCu; CuNb	7- 9	Cu; StCu	6- 1	
2	743.5	11.6	99	16.7	8.1	0.04	3.6	..	0	..	0	WNW	7	..	0	ACu; StCu	3- 6	Cu; StCu	7-10	Mist early; few drops rain in pm
3	743.6	11.5	84	19.9	5.8	0.04	4.9	..	0	..	0	NE	2	..	0	CiCu; ASt; StCu	1- 6	Cu; StCu	7- 8	Mist early
4	742.8	10.5	80	15.9	6.0		0.0	..	0	..	0	NE	7	NNE	2	ACu; ASt	10	ASt; StCu; Nb	10	Dew early; rain in evening
5	741.8	11.9	98	15.5	10.6	0.90	1.5	N	3	NE	2	NNW	2	..	0	ASt; StCu; Nb	7-10	ASt; StCu; Nb	4- 6	Heavy showers
6	741.3	11.5	98	17.5	8.5	0.28	3.4	..	0	..	0	WNW	11	..	0	ASt; StCu; Nb	7-10	ASt; StCu; Nb	7-10	Occasional showers
7	742.1	11.6	99	18.2	6.5	0.04	5.1	..	0	..	0	WSW	10	..	0	ASt; StCu; CuNb	7-10	ASt; StCu; CuNb	7-10	Occasional light showers
8	745.6	12.3	92	17.0	5.0	0.02	5.2	..	0	..	0	S	2	..	0	ASt; Cu; FrCu	2-10	ASt; Cu; StCu	10- 4	Mist early
9	746.9	9.6	89	13.2	2.4		5.1	..	0	..	0	SE	3	..	0	ASt; StCu	1- 6	ASt; StCu	7-10	Mist early; clear at night
10	749.9	10.0	85	13.9	4.0	T	3.6	SE	2	ESE	9	ESE	8	SSE	1	FrCu; StCu; Nb	7-10	CiSt; CiCu; ASt	7-10	Dew early
11	749.4	8.5	73	13.0	7.0		0.3	SE	5	ESE	2	E	10	ESE	1	CiSt; ACu; ASt	10	CiSt; ACu; ASt	10	Clearing somewhat at night
12	745.7	11.0	62	14.0	8.5		0.8	ENE	6	ENE	8	E	7	E	6	CiSt; ACu; ASt	7-10	CiSt; ACu; ASt	7-10	Clear at night, with dew
13	744.1	11.6	58	15.0	6.0		0.7	ENE	1	ENE	8	NE	8	..	0	CiSt; ACu; StCu	10	ACu; StCu; CuNb	10	Dew early; light rain at 16^h
14	743.5	12.9	55	19.9	8.3	0.01	0.7	NE	4	NE	4	NNE	3	ENE	10	CiCu; ASt; StCu; Nb	7-10	ASt; StCu; Nb	7-10	Rain at 12^h and at night; distant lightning at 23^h
15	739.1	13.3	86	19.4	10.8	0.44	2.2	NNW	6	NNE	6	NNE	10	NNE	4	CiSt; FrCu; StCu	7-10	CiSt; FrCu; CuNb	7-10	Few showers in pm and lightning; heavy rain at night
16	736.7	14.2	99	17.8	13.2	0.21	2.0	NNE	8	N	7	NNW	6	NNW	2	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Occasional showers; very heavy thunderstorm at 12^h
17	737.1	12.8	98	17.7	11.3	0.86	3.6	..	0	NNW	1	WNW	8	..	0	FrCu; Cu; CuNb	6-10	FrCu; Cu; CuNb	7-10	Mist at 7^h; occasional showers
18	741.0	12.5	98	17.0	10.4	0.17	2.5	WNW	1	..	0	WSW	6	..	0	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Fog until 8^h; drizzle after fog; showers later
19	741.4	11.1	99	17.0	8.5	0.08	0.6	..	0	N	1	NW	11	N	4	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Mist early; occasional showers
20	734.9	13.4	96	15.1	11.3	0.17	0.1	N	9	NNW	13	WNW	16	..	0	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7-10	Occasional rains during day; clearing in evening
21	741.2	11.0	89	16.0	5.9	0.20	5.3	NNE	4	N	1	WNW	12	NW	1	ASt; Cu; StCu; CuNb	6- 8	ASt; Cu; StCu; CuNb	7- 8	Mist early; occasional showers
22	744.0	11.5	90	17.7	5.4	0.04	6.3	..	0	NW	2	WNW	14	NW	1	ASt; Cu; StCu; Nb	3- 6	ASt; Cu; StCu; Nb	4- 6	Heavy mist early; some rain
23	739.7	12.4	88	16.7	8.1	0.06	3.6	NW	2	WNW	14	WNW	21	WNW	6	Cu; StCu; CuNb	5- 8	Cu; StCu; CuNb	7- 8	Occasional showers
24	737.0	12.0	94	16.2	9.6	0.07	4.5	WNW	6	WNW	9	WNW	18	WNW	6	ASt; Cu; FrCu; Nb	6-10	ASt; Cu; FrCu; Nb	7-10	Occasional showers
25	737.3	12.7	88	15.7	10.4	0.16	3.2	WSW	4	SW	3	SSW	13	W	10	Cu; FrCu; Nb	7-10	Cu; FrCu; Nb	7-10	Showers in am; drizzling later
26	741.4	9.8	85	12.4	8.1	0.34	6.2	WSW	2	N	3	S	5	..	0	CiCu; ASt; StCu; CuNb	5- 8	CiCu; ASt; StCu; CuNb	4- 8	A few showers during day; clear at night, with frost
27	748.0	7.0	87	14.1	0.4	0.04	4.2	..	0	..	0	..	0	..	0	CiSt; ASt; StCu	1- 6	ASt; Cu; StCu	7-10	Mist early; clouds clearing in evening
28	751.7	9.1	75	14.2	2.0		9.0	..	0	..	0	ESE	7	..	0	Ci; CiCu; ASt	1- 3	Ci; CiCu; ASt	1- 3	Dew early; frost at night
29	748.3	9.0	61	14.2	0.9		9.2	SW	1	SE	1	ESE	10	N	3	CiSt; CiCu	1- 3	CiSt; CiCu	1- 3	Dew early; frost at night
30	745.8	9.0	70	16.5	2.5		9.2	SE	1	SE	2	ESE	8	SE	4	ASt	1- 3	ASt	4- 6	Cloudy in evening, with dew
31	745.6	9.0	87	13.9	4.6		0.0	..	0	E	5	SE	6	SE	7	StCu	10- 7	StCu	6- 1	
SUM						4.20														
MEAN	743.1	11.2	86	16.1	6.9		3.5	2.1		3.3		8.4		2.2						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 367

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				196	195	—	—	—	—	—	—	195	171	144	159	162	168	162	171	166	181	182	182	193	210	216	244		0
2	✓	✓		235	233	246	237	⌈174	184	274⌋	321	293	233	198	192	195	≷182≶	182	172	183	196	210	220	232	229	⌈221	235⌋	220	1
3	✓	✓	✓	⌈232	296	292	216	268	356⌋	404	440	427	366	316	259	218	194	194	194	200	214	231	224	221	234	265	279	272	0
4				292	305	328	350	345	325	296	305	—	—	—	—	—	—	—	—	214	≷185≶	198	206	≷187	198	182	227≶		1
5	✓			≷222	107	101	206	183	146	161	194	168	188	183	211	185	206	194≶	198	174	182	174	187	187	204	207	204	182	2
6	✓	✓		198	≷168≶	220	244	≷182	248≶	290	267	257	246	235	181	159	166	166	165	160	162	174	184	207	220	⌈217⌋	248	207	1
7	✓	✓	✓	248	257	278	272	268	⌈266	265⌋	293	288	222	190	181	181	(163	154)	167	168	182	185	190	194	187	185	194	216	0
8	✓			207	211	206	205	207	⌈248	259⌋	265	248	220	185	192	195	193	187	181	184	187	185	178	150	149	143	145	197	0
9	✓			150	161	161	163	⌈161	171	122	174⌋	207	229	240	240	210	207	205	195	187	199	199	220	232	220	211	212	195	0
10	✓	✓	✓	210	209	217	223	245	251	279	268	248	223	221	224	232	211	218	215	207	217	224	223	218	209	221	221	226	0
11	✓	✓	✓	231	246	265	294	(296	298	300	301)	304	294	276	251	248	266	257	248	245	⌈222	229	231⌋	255	264	279	309	267	0
12	✓			318	325	328	342	320	292	257	264	266	235	216	215	212	211	217	228	231	235	232	242	244	256	256	243	258	0
13	✓			259	277	≷199≶	246	237	245	256	242	231	216	198	183	173	170	171	177	181	≷157≶	184	204	206	209	216	199	210	1
14	✓			200	210	220	229	223	243	240	257	246	229	218	207	≷159	204≶	(187)	198	≷185	132	181	161	198	193	170	198≶	204	1
15	✓			≷207	190	137	98	98	170≶	162	161	170	171	167	171	173	181	185	194	190	179	193	155	168	187	203	192	171	2
16	✓			178	174	179	167	≷131	143≶	179	≷123	83	139	110	183	106	149	173	161	171	172	187≶	184	185	185	194	193	160	2
17	✓			194	195	199	203	≷145	149	190	181	155	195	154	179	206	168≶	195	188	189	187	185	184	196	206	⌈182	190⌋	184	2
18	✓	✓		227	220	215	222	248	243	⌈245	231	222⌋	244	218	≷205≶	199	≷193≶	205	196	195	195	193	194	205	220	235	242	217	1
19	✓	✓		224	210	⌈174	162	267⌋	281	288	⌈264⌋	256	248	222	203	185	184	172	165	156	181	183	183	179	168	171	168	204	0
20	✓			179	171	173	173	178	181	176	173	≷144	152	(135)	156	137	134≶	139	145	143	148	155	160	161	168	171	183	160	1
21	✓	✓		181	167	≷138	151≶	155	162	172	181	181	170	162	162	160	(156)	150	149	166	168	172	174	182	184	187	198	168	1
22	✓	✓		207	218	227	228	234	≷240	234≶	222	207	205	181	167	162	159	157	159	162	161	170	171	168	162	170	171	189	1
23	✓	✓		161	168	170	171	178	183	171	170	150	149	137	134	142	134	145	146	145	156	154	161	161	157	155	159	157	1
24	✓	✓		162	161	159	159	160	160	166	167	171	162	162	157	159	159	≷155≶	160	≷159≶	159	160	160	160	161	≷161≶	162	161	1
25	✓			162	167	166	168	170	≷171	150	177≶	173	160	168	≷160≶	168	162	168	159	161	155	152	≷150	123	161	146≶	156	161	1
26	✓			165	168	≷161	162	132≶	157	161	168	182	177	≷157≶	176	173	177	173	177	182	178	179	187	196	199	209	224	176	1
27	✓	✓	✓	227	231	233	259	251	257	271	292	294	265	227	206	190	196	194	195	194	194	193	177	185	184	193	200	221	0
28	✓	✓	✓	217	205	217	217	215	233	240	257	293	289	246	217	205	(192)	194	198	210	216	211	217	217	216	209	235	224	0
29	✓	✓	✓	264	277	293	303	305	305	281	284	305	293	245	232	227	220	223	220	231	217	229	232	227	207	199	195	251	0
30	✓	✓	✓	229	243	253	248	268	295	303	303	332	329	256	246	231	222	221	222	220	216	182	174	195	221	232	248	245	0
31	✓	✓	✓	246	246	246	255	256	274	283	290	246	239	243	243	255	250	254	257	242	239	227	233	234	240	238	245	249	0
MEANS * 29 DAYS				212	211	209	215	212	226	234	239	233	224	202	198	188	187	187	187	187	186	191	192	196	200	202	209	206	
MEANS † 17 DAYS				218	221	226	227	234	249	263	268	263	246	220	204	197	191	191	190	191	194	196	197	202	204	208	218	217	
MEANS ‡ 9 DAYS				234	246	255	254	264	282	292	303	304	280	247	229	221	213	212	213	213	213	212	211	216	218	225	236	241	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 368

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				171	175	171	169	180	186	180	171	164	145	140	152	150	162	156	154	152	150	153	148	160	182	185	205		0
2	✓	✓		197	192	179	182	[139	139	252]	278	246	201	187	195	189	}177{	171	166	161	142	159	191	238	219	[180	194]	191	1
3	✓	✓	✓	[216	278	256	208	265	340]	395	422	375	340	310	266	216	182	182	169	171	188	197	197	211	224	256	280	256	0
4				291	300	315	340	328	313	292	291	—	—	—	—	—	—	—	—	212	}205{	203	208	}221{	196	216	252		1
5	✓			}229{	264	292	193	185	188	188	168	226	210	218	206	213	216	226	190	167	156	158	167	157	175	180	171	198	2
6	✓	✓		159	}158{	204	218	}162{	246	270	255	244	247	237	188	169	166	167	158	147	150	149	163	178	(213)	[205]	233	195	1
7	✓	✓	✓	243	251	251	[250	252	237	257	252	244]	209	189	179	175	(168	157)	156	152	148	143	155	157	152	146	157	195	0
8	✓			171	162	161	[166	144	195	208	211]	197	159	160	178	176	(171	164	158)	152	152	151	157	128	128	127	128	163	0
9	✓			126	135	142	137	[115	120	98	143]	185	232	(254	246)	230	218	207	190	180	196	193	218	222	(207)	195	179	182	0
10	✓	✓	✓	188	178	200	197	190	224	269	(280)	246	225	214	224	224	208	210	210	198	204	208	190	183	189	206	208	211	0
11	✓	✓	✓	224	244	255	275	271	264	254	284	252	277	278	265	251	245	263	248	237	[229	218	226]	214	237	257	273	252	0
12	✓			297	309	307	306	314	297	278	266	238	225	214	210	204	209	213	223	216	226	225	234	233	243	233	230	248	0
13	✓			254	257	}252{	220	215	218	225	218	223	215	199	186	192	169	169	169	171	}141{	161	173	175	180	188	178	198	1
14	✓			180	186	190	195	189	[195]	217	224	231	228	225	205	}199{	188	188	181	}167	109	159	208	181	199	199	200	193	1
15	✓			}209	178	161	201	209	206	165	}137	145	160	167	172	170	174	180	188	180	162	174	149	158	168	180	181	174	2
16	✓			175	186	169	166	}166	168	159	}66	136	74	156	150	159	152	169	150	148	120	139	}166	161	170	171	171	152	2
17	✓			161	157	156	}135	127	149	162	111	194	141	215	126	155	175	}177	165	161	156	147	148	147	151	[130	148]	154	2
18	✓	✓		171	171	195	197	225	205	[187	168	171]	226	194	}198{	187	}191{	180	178	168	155	145	138	148	162	191	205	181	1
19	✓	✓		177	167	[130	137	238]	246	231	[218]	243	238	210	197	189	188	175	162	161	142	147	156	159	152	151	157	182	0
20	✓			156	160	152	155	161	156	161	(172)	}184	190	(196)	140	142	137	}129	128	130	122	108	111	116	128	128	149	146	1
21	✓	✓		136	}111	135	110	}(118	126	136	144)	152	137	148	150	148	148	(141)	142	146	130	130	131	130	148	142	157	137	1
22	✓	✓		158	161	171	174	181	}190	182	}193	186	186	170	174	169	165	157	152	139	139	126	140	147	145	140	147	162	1
23	✓	✓		136	138	146	139	144	157	153	145	141	127	131	138	139	139	140	138	139	139	139	141	139	140	145	149	141	1
24	✓	✓		137	139	128	135	132	136	138	141	150	150	157	157	160	158	}155{	158	}150{	140	139	140	136	128	}149{	129	143	1
25	✓			138	129	140	128	140	}152	165	137	}131	151	148	}139{	146	143	155	161	152	142	149	}149{	171	141	143	147	146	1
26	✓			139	137	}150	137	128	}118	111	121	132	148	}161{	157	158	159	149	150	150	131	102	149	143	158	170	161	142	1
27	✓	✓	✓	167	180	163	204	216	180	186	196	269	247	199	190	178	165	167	162	148	157	131	120	152	152	136	160	176	0
28	✓	✓	✓	146	159	145	169	169	174	182	183	247	259	229	216	200	192	180	188	199	200	195	184	169	171	179	209	189	0
29	✓	✓	✓	227	246	255	236	256	262	232	255	296	282	238	227	226	216	225	218	224	207	197	197	194	179	178	186	227	0
30	✓	✓	✓	205	207	206	207	219	257	265	271	324	324	253	254	225	224	217	224	216	212	167	161	181	215	210	226	228	0
31	✓	✓	✓	226	216	207	210	238	262	257	255	236	233	236	244	252	249	254	255	242	242	227	226	233	238	228	228	237	0
MEANS * 29 DAYS				184	188	190	186	190	200	206	204	215	208	203	192	188	182	182	177	171	163	161	168	171	176	177	184	186	
MEANS † 17 DAYS				183	188	190	191	201	214	226	232	237	230	211	204	194	187	185	181	176	172	166	168	175	180	182	194	194	
MEANS ‡ 9 DAYS				205	218	215	217	231	244	255	266	277	266	238	229	216	205	206	203	199	199	187	184	188	195	199	214	219	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 369

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	97	86	94	81	86	84	88	77	84	86	77	82	78	77	81	77	72	63	81	100	68	63	63	74	80	0
2	✓	✓		65	68	58	69	77	99	93	91	83	84	82	88	87	86	80	107	103	92	95	106	91	85	105	106	88	0
3				102	111	119	132	128	125	115	N 59	Z	Z	N 3	158	N 94	N101	N125	Z	Z	122	132	98	Z	Z	Z	Z		2
4				Z	62	N 25	78	98	56	N 42	N 69	N106	88	114	95	N 61	97	N 91	N 88	98	91	81	74	75	78	80	71		1
5	✓	✓		76	71	69	96	91	106	102	98	95	92	97	89	86	N 89	94	101	97	98	91	94	96	96	81	77	91	1
6	✓	✓	✓	86	106	116	125	111	116	94	95	98	82	92	93	92	98	102	100	101	78	71	68	83	83	89	78	94	0
7	✓	✓	✓	85	92	85	98	104	93	81	86	93	77	82	83	81	82	89	96	82	74	65	67	68	60	68	64	81	0
8	✓	✓	✓	91	98	85	84	74	68	60	55	63	67	82	94	103	114	110	113	101	86	76	60	59	56	54	64	80	0
9	✓	✓		67	57	59	64	72	71	80	82	85	88	82	89	77	70	80	85	47	64	73	95	56	38	22	30	68	0
10				38	48	48	30	51	N 17	−9	N 79	Z	Z	Z	N 47	98	59	39	N 33	N 43	Z−	Z−	Z−	Z−	−159	Z	Z−		2
11				N 40	N 38	N 18	50	64	Z	80	81	Z	(N 48)	68	69	62	62	68	78	77	80	86	98	86	99	116	94		1
12	✓			104	98	110	106	125	125	110	107	89	87	86	85	89	94	94	92	95	90	92	97	80	70	80	77	95	0
13	✓	✓	✓	80	85	81	74	68	64	48	56	65	64	73	74	74	85	83	85	72	63	59	56	59	65	69	60	69	0
14	✓	✓	✓	59	72	81	77	77	65	75	67	73	69	73	86	83	90	91	81	89	68	65	65	72	56	65	65	74	0
15	✓	✓	✓	64	54	47	52	51	60	44	47	59	65	83	86	95	95	102	98	98	105	91	80	70	86	84	73	75	0
16	✓	✓	✓	90	89	78	81	74	64	44	74	83	71	67	57	73	75	70	73	67	60	68	73	86	80	76	70	73	0
17				51	51	54	54	57	51	46	41	48	57	60	74	Z	Z	71	91	80	79	83	81	72	56	60	73		1
18	✓	✓		65	70	78	157	111	116	124	121	98	95	81	N 47	N 60	82	76	84	89	103	89	68	78	74	89	82	89	1
19	✓			82	81	78	88	78	83	74	68	70	57	111	120	99	120	116	81	N 50	N 87	97	92	99	94	102	113	89	1
20	✓			95	56	72	82	87	56	39	103	111	101	N 58	86	80	81	78	77	86	86	78	85	90	95	111	95	83	1
21	✓	✓	✓	90	102	93	96	85	80	77	72	73	75	78	76	68	78	83	80	82	78	68	86	83	93	83	76	81	0
22	✓	✓	✓	57	59	55	52	51	64	48	54	65	80	91	96	92	94	86	89	89	68	47	53	54	54	55	54	67	0
23	✓			48	43	47	47	51	46	39	51	64	74	80	76	74	81	81	85	90	97	89	92	86	82	73	59	69	0
24				62	55	47	52	50	48	43	48	68	74	67	N 60	N 12	Z−	88	Z−	N 43	N 6	86	N 71	85	70	94	93		1
25	✓	✓		86	86	91	N 89	83	82	84	73	74	68	73	74	80	77	85	77	66	89	85	86	77	73	67	73	79	1
26				80	86	82	88	84	88	88	N 51	Z	Z	Z	Z	Z	Z	Z	100	Z	Z	Z	Z+	101	89	94	96		2
27	✓	✓	✓	80	76	80	81	77	72	65	65	68	71	72	74	71	76	73	78	93	84	76	86	85	88	73	91	77	0
28	✓	✓	✓	68	77	54	57	65	68	68	57	67	68	83	77	71	76	85	87	86	84	62	48	51	54	54	56	68	0
29				48	55	46	34	44	48	51	N 39	52	67	65	Z	N 40	Z	−10	136	119	98	78	99	85	97	108	103		1
30	✓	✓		103	115	133	132	127	107	93	78	93	77	97	98	102	95	106	121	128	119	120	123	113	131	130	141	112	0
31	✓	✓		151	154	156	125	204	159	227	210	188	83	77	89	89	97	116	95	100	97	88	89	94	95	100	111	125	0
MEANS * 23 DAYS				82	82	83	88	88	85	81	82	84	77	82	83	83	87	90	90	86	84	79	81	78	77	78	78	83	
MEANS † 19 DAYS				82	85	84	89	89	86	84	82	85	77	81	82	82	86	89	91	87	83	77	79	76	75	75	76	83	
MEANS ‡ 12 DAYS				79	83	79	80	77	75	66	67	74	73	79	82	82	87	88	88	86	76	69	70	70	70	69	69	77	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VAL

TABLE 370

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	745.2	11.5	79	16.5	5.2		8.1	..	0	ENE	3	ESE	5	..	0	FrCu; StCu	3- 8	StCu	7-10	Dew early; frost at night
2	739.2	11.8	83	21.0	3.7		6.4	..	0	NE	5	NNW	12	NNW	6	CiSt; ACu; ASt	1- 6	CiSt; ACu; ASt	7-10	Probably dew early
3	731.9	12.9	96	15.8	11.5	0.39	1.4	N	3	NW	13	WNW	25	WNW	2	Cu; FrCu; Nb	7-10	ASt; Cu; FrCu; CuNb	7-10	Showers in early hours and through day
4	740.0	11.5	86	15.0	8.6	0.42	6.8	..	0	WSW	2	SW	10	..	0	ASt; Cu; FrCu; Nb	4-10	ASt; Cu; FrCu; Nb	4-10	Showers
5	744.6	13.0	78	17.0	5.8	0.14	5.1	..	0	W	8	WSW	12	..	0	ASt; Cu; StCu; Nb	4-10	ASt; Cu; StCu; Nb	7-10	Occasional showers
6	749.7	10.0	83	16.3	6.3	0.04	9.0	..	0	..	0	ESE	..	..	..	Ci; CiSt; CiCu; Cu	7- 8	Ci; CiSt; CiCu; Cu	6- 4	Heavy dew early; air hazy all day
7	746.9	10.5	77	17.8	3.3		9.4	..	..	..	..	..	0	..	0	ASt	1- 3	ASt	1- 3	Dew early; air hazy all day
8	743.4	11.5	75	21.4	3.1		9.5	..	0	..	0	N	6	..	0		0		0	Dew early; air hazy until 12h
9	740.9	15.9	54	22.9	10.0		2.4	NNE	1	N	2	NW	11	WSW	6	CiSt; Cu; StCu	3- 8	CiSt; ASt; StCu; CuNb	7-10	Rain at 19h
10	741.8	13.6	99	14.9	14.5	0.26	0.0	..	0	..	0	..	0	SSE	5	Cu; FrCu; Nb	10	Cu; FrCu; Nb	10	Rain all day and at night
11	739.4	9.5	97	12.3	9.5	1.17	0.7	..	0	NE	3	S	15	S	6	Cu; FrCu; Nb	10- 6	Cu; FrCu; Nb	6-10	Raining in am; showers in pm; clear at night
12	749.3	8.6	77	14.9	4.8	0.02	9.9	..	0	S	7	S	8	..	0	Cu	1- 3	Cu	4- 6	
13	750.7	9.6	75	16.5	1.0		10.2	..	0	..	0	ESE	3	..	0	StCu	1- 3	StCu	4- 6	Dew early
14	749.8	12.5	70	20.2	4.5		10.0	..	0	ENE	2	NE	4	..	0		0		0	Dew early
15	745.6	13.6	64	21.5	4.6		10.0	N	1	N	3	NW	14	..	0	Cu	1- 3	Cu; StCu	4- 6	Dew early; rain at night; heavy dew 22h
16	745.4	15.0	75	18.0	9.5	0.03	6.8	..	0	..	0	..	0	..	0	ASt; StCu	4- 6	ASt; StCu	7-10	Mist early; hazy; clouds clearing slightly at night
17	741.8	13.7	77	17.4	6.7		3.5	..	0	..	0	WNW	9	..	0	ASt; FrCu; Cu; Nb	5-10	ASt; StCu; Cu; Nb	7-10	Dew early; occasional showers
18	741.0	13.5	79	17.7	7.7	0.08	3.5	..	0	W	6	WNW	11	..	0	ASt; Cu; StCu; Nb	5-10	ASt; Cu; StCu; Nb	7-10	Mist early; occasional showers
19	742.8	14.0	84	19.2	11.0	0.02	0.2	NNW	3	NNW	4	NW	17	..	0	ASt; Cu; FrCu; Nb	7-10	ASt; Cu; FrCu; Nb	7-10	Rain at intervals
20	746.4	12.7	69	15.3	7.0	0.11	6.3	NW	2	SW	4	S	7	SSW	1	ASt; Cu; StCu; Nb	8- 4	ASt; Cu; StCu	3- 1	A few showers; air hazy; frost at night
21	752.3	8.0	61	15.5	0.6	0.02	9.8	SSE	1	ESE	3	E	13	SSE	3		0		0	Hazy; dew and frost at night
22	749.4	11.5	47	20.5	2.1		9.4	..	0	NE	2	NE	3	..	0		0	StCu	0- 1	Dew early; hazy; frost at night
23	746.4	13.0	36	22.3	2.5		10.0	N	1	N	3	NNW	10	NW	1		0		0	Dew in evening
24	739.1	15.8	64	21.5	1.0		3.7	N	8	NNW	7	NNW	18	W	8	ASt; FrCu; StCu; Nb	1-10	ASt; FrCu; StCu; Nb	7-10	Sand and dust in air in am; rain in pm
25	740.3	11.7	78	14.0	9.2	0.18	3.1	W	1	..	0	WSW	7	..	0	ASt; Cu; FrCu; Nb	7-10	ASt; Cu; FrCu; Nb	7-10	Rain
26	737.0	9.9	91	15.4	10.0	0.15	4.1	..	0	NNW	4	WSW	15	SW	2	Cu; FrCu; CuNb	7-10	Cu; FrCu; CuNb	7-10	Heavy showers; frost at night
27	745.3	8.5	94	14.4	0.5	0.15	3.8	..	0	..	0	W	1	..	0	CiSt; ASt; StCu	1- 6	CiSt; ASt; StCu	7- 8	Hazy
28	743.8	12.2	58	17.1	7.7		4.0	..	0	NNE	2	N	2	..	0	CiSt; ASt; StCu	7-10	CiSt; ASt; ACu; StCu	7-10	Dew early
29	733.8	15.2	71	16.0	7.2	0.01	1.1	..	0	NNE	2	N	6	..	0	CiSt; ACu; FrCu; Nb	8-10	CiSt; ACu; StCu; Nb	10	Rain
30	741.6	12.4	82	18.0	8.2	0.25	2.6	SW	4	..	0	W	10	..	0	CiSt; ASt; FrCu; StCu	7-10	CiSt; ASt; FrCu; Stcu	6- 1	
31	743.0	9.7	100	19.4	4.0	T	5.0	..	0	NNE	2	N	7	NNW	3	Cu; FrCu; StCu	6- 8	Cu; FrCu; StCu	6- 8	Fog until 9h5
SUM						3.44														
MEAN	743.5	12.0	76	17.6	6.1		5.7		8.3		2.9		8.7		1.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 371

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	268	277	278	284	301	305	316	342	⌈315⌋	312	312	290	279	264	258	265	277	282	⌈213	175	227⌋	278	288	287	279	0
2	✓	✓		302	307	343	329	304	⌈206	236	237⌋	283	251	237	210	193	190	180	169	174	178	175	178	177	177	179	187	225	0
3	✓			189	190	192	188	188	188	187	≷177	137	149	181	147	140	142	136	141	150≷	156	165	165	≷169	168	150	150≷	164	2
4				≷114	179	150≷	178	169	178	≷178	179	(175	170)	166	188	168≷	(179)	165	174	165	173	177	188	187	188	190	213		1
5	✓	✓		201	216	225	207	202	188	180	188	183	180	178	171	177	166	168	175	177	178	187	188	188	187	189	188	187	1
6	✓	✓	✓	180	165	160	164	179	188	192	203	215	215	216	199	192	197	202	203	203	203	203	203	190	198	215	227	196	0
7	✓	✓	✓	218	217	241	237	218	236	254	245	244	255	229	207	215	225	218	225	226	218	230	237	227	215	199	216	227	0
8	✓	✓	✓	216	229	254	291	296	318	338	345	349	319	281	213	174	161	155	160	166	169	180	192	204	212	215	225	236	0
9	✓	✓		255	278	277	265	254	250	254	248	236	222	211	192	166	157	147	140	144	137	140	140	165	190	211	212	204	0
10	✓			218	206	202	215	206	192	≷168	190	168	152	114	180≷	169	168	166	155	≷147	86	151	170	147	175	112	127≷	166	2
11	✓			203	192	182	216	216	≷154	196	178	180≷	188	188	168	168	(165)	154	169	168	170	164	152	155	152	151	166	175	1
12				152	165	169	174	165	163	169	170	188	185	184	174	155	166	173	173	163	155	159	152	177	178	193	199		0
13	✓	✓	✓	202	213	216	231	241	254	268	279	⌈218	217⌋	203	180	178	168	169	178	193	206	198	203	203	196	197	206	209	0
14	✓	✓	✓	218	218	220	229	249	254	239	244	258	258	258	229	210	199	194	197	193	203	190	207	215	241	245	257	226	0
15	✓	✓	✓	263	267	304	305	302	279	276	282	268	220	178	136	131	131	133	137	140	147	150	155	166	168	165	174	203	0
16	✓	✓	✓	163	169	178	187	187	182	185	179	175	173	180	178	175	168	165	174	169	178	171	174	174	178	183	188	176	0
17	✓			204	226	207	226	244	278	321	320	305	241	178	161	156	161	163	169	165	165	157	165	178	187	196	215	208	1
18	✓	✓		216	203	215	189	165	152	150	155	149	152	152	145	142	(130)	149	149	132	136	144	152	156	165	169	169	160	1
19				175	178	182	185	199	203	193	201	165	159	146	127	135	137	131	137	140	173	173	164	166	177	160	147		1
20				161	166	165	147	149	156	165	165	178	169	161	163	160	164	168	159	156	155	163	154	156	141	140	142		1
21	✓	✓	✓	150	160	178	183	194	203	213	231	239	213	190	190	188	182	190	203	212	216	216	182	188	182	215	239	198	0
22	✓	✓	✓	269	293	307	315	318	301	318	325	292	231	207	194	199	202	190	189	190	⌈175	165⌋	229	243	237	246	268	246	0
23				—	—	—	—	—	—	—	—	291	253	216	201	194	152	152	155	152	140	150	174	180	193	220	240		0
24	✓			254	268	288	292	311	293	291	267	204	154	≷91	66	58	74	103	91	142	147≷	146	146	140	145	152	152	178	1
25	✓	✓		147	149	149	155	156	154	164	175	173	161	168	166	168	166	166	169	164	177	189	193	202	212	227	241	175	1
26	✓			240	225	217	215	213	202	188	≷192	194	142	154	149	128	130	136≷	141	146	≷138	144≷	163	169	173	178	188	174	2
27	✓	✓	✓	193	202	208	215	229	227	⌈243	272⌋	253	194	193	190	190	183	182	188	180	182	190	193	199	216	212	206	206	0
28	✓	✓	✓	232	229	253	250	262	257	267	333	281	265	245	202	190	185	178	177	174	168	179	202	212	203	215	220	224	0
29	✓			239	250	292	326	333	342	356	364	315	255	215	≷187	180	118	166≷	177	174	177	177	180	193	201	187	202	234	1
30	✓	✓		189	202	178	164	166	168	173	183	180	175	155	141	131	135	131	126	123	127	127	132	131	137	140	146	152	0
31	✓	✓		152	155	152	177	⌈108	141	98	124	130	206⌋	216	168	156	150	138	131	137	135	138	140	128	136	127	138	145	0
MEANS * 26 DAYS				215	219	228	233	232	227	234	241	229	212	197	179	171	166	167	169	172	171	173	178	183	190	191	200	199	
MEANS † 19 DAYS				212	218	228	230	228	224	230	242	234	222	211	190	182	177	174	177	178	180	178	183	189	196	202	210	204	
MEANS ‡ 12 DAYS				214	220	233	241	248	250	259	273	259	239	224	201	193	189	186	191	194	196	190	196	204	210	216	226	219	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 372

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	233	192	196	200	227	226	226	255	[273]	293	298	266	262	237	240	254	258	263	[182	152	191]	221	239	239	234	0
2	✓	✓		254	280	[282	262	267	153	191	201]	247	238	228	201	199	193	189	175	173	170	170	163	168	167	162	165	204	0
3	✓			165	163	160	156	160	163	163	}173	(175	176)	178	140	143	146	146	153	135}	141	130	138	}122	130	135	173}	153	2
4				}169	143	151	147	115	114	115	140	—	—	—	172	171}	156	(151)	143	132	134	123	143	143	145	153	166		1
5	✓	✓		173	192	194	173	161	150	143	135	153	160	156	159	160	163	156	159	146	143	129	124	119	121	120	140	151	1
6	✓	✓	✓	118	112	104	99	108	119	141	109	179	176	166	172	169	167	161	160	160	155	154	164	163	163	174	198	150	0
7	✓	✓	✓	180	165	175	170	(176	184	191	199)	205	219	213	184	193	200	200	189	199	196	212	199	173	162	151	150	187	0
8	✓	✓	✓	176	179	212	203	265	281	292	266	315	313	277	212	170	152	151	144	161	152	160	175	184	203	219	214	212	0
9	✓	✓		228	264	257	239	241	235	235	228	224	216	212	193	172	169	153	147	156	149	146	132	151	170	198	190	196	0
10	✓			181	173	175	199	187	182	}191	163	170	156	192	172}	150	164	170	156	}156	193	241	240	258	255	266	239}	193	2
11	✓			196	181	182	191	155	}178	145	101	140}	190	185	165	166	165	(156)	162	155	153	144	132	142	132	124	(143)	158	1
12				—	—	—	—	—	—	—	—	163	163	179	175	157	170	171	164	154	143	124	125	134	146	135	153		0
13	✓	✓	✓	154	143	176	180	215	229	240	228	[175	192]	185	182	181	162	165	172	184	198	173	166	166	154	133	173	180	0
14	✓	✓	✓	168	162	152	175	185	202	189	182	214	230	240	220	203	188	184	189	179	178	[133	161]	185	211	236	250	192	0
15	✓	✓	✓	248	271	300	302	301	267	273	275	265	228	189	143	140	141	135	140	134	134	124	133	153	153	150	153	198	0
16	✓	✓	✓	140	141	143	143	125	141	153	142	139	153	159	167	156	159	155	153	147	145	150	145	129	142	140	150	147	0
17	✓			172	184	192	212	229	246	269	301	290	229	173	173	150	144	156	151	147	143	146	144	146	173	174	180	188	1
18	✓	✓		187	175	}145	136}	145	122	105	106	120	128	135	140	140	(135)	132	133	121	113	115	125	131	144	141	143	134	1
19				150	153	155	161	174	179	178	182	170	—	—	—	187	153	122	—	—	—	—	—	—	143	123	124		1
20				101	113	116	124	109	106	91	115	130	153	—	—	155	150	153	150	139	133	132	133	124	—	—	—		1
21	✓	✓	✓	109	112	141	161	162	173	192	220	227	209	185	190	191	185	192	195	201	200	192	142	145	145	185	201	177	0
22	✓	✓	✓	232	255	275	280	259	273	281	284	271	229	204	191	194	189	182	170	171	[153	151]	201	204	217	228	256	223	0
23				—	—	—	—	—	—	—	—	305	260	231	212	210	164	161	160	145	132	132	153	171	184	204	221		0
24	✓			235	262	285	291	301	294	286	248	203	165	}111	80	74	114	118	116	152	161}	140	140	123	132	129	126	179	1
25	✓	✓		130	130	125	131	133	134	131	130	144	141	160	(162)	157	154	(151)	146	145	143	125	133	146	173	195	203	147	1
26	✓			200	200	191	184	189	188	175	}182	160	157	146	124	91	87	125}	133	115	}113	121}	125	122	125	111	[112]	145	2
27	✓	✓	✓	[135	140	118	159	183	162	181	218]	220	181	170	166	166	161	151	145	145	135	132	134	140	150	153	156	158	0
28	✓	✓	✓	168	182	189	195	204	208	218	285	257	259	239	207	202	187	172	165	162	153	163	161	181	186	207	211	198	0
29	✓			[210	217]	295	316	309	309	345	359	311	261	219	}213	194	214	191}	157	147	146	145	143	149	152	128	124	219	1
30	✓	✓		121	142	135	130	115	130	121	134	144	146	133	126	120	121	114	105	100	99	90	93	91	97	91	98	116	0
31	✓	✓		94	80	99	115	[69	91	87	112	114	194]	211	164	153	143	131	133	132	131	122	126	126	125	115	109	124	0
MEANS * 26 DAYS				177	181	188	192	195	194	199	201	205	202	191	174	165	163	161	158	157	156	150	150	154	162	166	173	176	
MEANS † 19 DAYS				171	175	180	182	186	183	189	195	204	206	198	181	175	169	164	162	162	158	149	149	155	163	170	179	176	
MEANS ‡ 12 DAYS				172	171	182	189	201	205	215	222	228	224	210	192	186	177	174	173	175	172	160	161	168	176	185	196	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 373

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				98	103	Z	Z	Z	Z	Z	N 61	Z	Z+	Z	Z	Z+	Z	Z	107	Z	Z	Z	111	144	113	91	90		2
2	✓	✓	✓	82	89	82	81	73	67	61	64	64	63	61	61	70	68	76	76	77	76	71	73	70	75	73	68	72	0
3				61	64	64	60	52	60	57	56	59	62	63	55	50	51	59	59	68	68	65	80	71	N 63	94	Z		1
4				Z	Z–	–53	N 42	110	91	106	93	Z	N 13	N 4	–162	Z	Z	Z	N 44	74	Z–	–33	–54	N 44	N 64	N 42	90		2
5	✓	✓		98	93	71	89	89	90	83	102	94	88	86	88	88	N 69	N 57	68	91	91	81	83	78	59	80	81	83	1
6				86	82	80	91	106	93	89	71	74	86	88	83	N 63	N 17	70	86	Z	85	60	85	113	102	109	94		1
7	✓	✓	✓	81	74	78	67	62	68	58	62	68	72	81	95	103	97	119	124	122	106	90	85	91	100	95	103	88	0
8				N 95	149	—	—	—	—	—	—	99	89	107	100	110	N107	106	113	113	95	98	95	112	123	126	129		1
9	✓	✓		128	138	137	121	136	101	85	98	97	107	N 87	87	85	89	104	96	101	86	94	101	98	(108)	127	130	106	1
10				124	125	170	127	117	106	78	110	116	89	N 90	N 74	86	81	N 76	84	99	—	—	—	—	—	—	—		1
11				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91	93	76	79	74	81	75	[98]		0
12	✓			[110	129	128	97	80	60	54	69]	70	65	66	61	65	70	71	72	78	72	76	71	67	78	88	93	79	0
13				93	84	91	88	84	94	80	89	88	84	N 88	N 80	N 76	Z	107	88	88	106	114	111	111	103	114	128		1
14	✓	✓	✓	121	104	114	116	114	104	107	107	115	110	110	118	106	106	104	102	106	110	101	100	91	100	106	101	107	0
15	✓	✓	✓	106	118	[136	137	124	89]	88	82	98	114	89	88	92	92	97	98	94	100	83	87	95	103	107	[138]	102	0
16	✓	✓		[107	133	133	119	119	95	91	76]	80	92	107	118	116	110	122	123	110	112	98	79	60	93	94	92	103	0
17	✓	✓	✓	92	92	109	103	102	89	88	80	97	90	92	86	94	100	101	97	97	89	85	87	67	75	65	61	89	0
18	✓	✓		66	68	62	63	62	61	60	56	50	61	65	77	77	88	82	76	67	80	76	66	95	N107	106	101	74	1
19	✓	✓	✓	101	101	104	109	101	93	82	114	101	95	96	84	102	97	89	89	89	88	84	83	93	88	80	66	93	0
20	✓	✓		72	[69	84	141	93	89	68]	69	70	76	76	71	74	75	76	75	65	78	72	88	97	106	89	80	81	0
21				74	—	—	—	—	—	—	112	91	84	81	74	84	88	98	100	94	95	84	69	67	59	70	63		0
22				—	—	—	—	—	—	66	78	88	97	91	N 89	N 84	109	86	N 80	88	83	89	95	87	83	80	99		1
23	✓	✓	✓	106	125	119	130	108	91	91	82	94	80	75	76	92	83	89	88	85	89	85	88	91	98	97	105	94	0
24	✓	✓		87	76	79	74	63	61	53	48	96	79	82	91	N 84	N 68	78	87	92	89	97	91	83	79	84	84	79	1
25	✓	✓	✓	79	[70	63	71	61	69	85	67]	75	81	85	92	93	92	92	92	86	89	63	80	92	94	92	76	81	0
26	✓	✓	✓	75	86	87	[76	71	90]	76	80	80	84	76	67	66	78	81	88	102	95	92	89	69	69	70	75	80	0
27	✓	✓		69	68	61	[71	37	44	39	50	80]	89	91	85	97	96	101	102	106	100	81	102	119	106	110	112	84	0
28	✓	✓		119	128	125	133	157	140	138	110	131	128	119	107	103	89	98	99	110	105	114	107	110	114	114	119	117	0
29	✓	✓	✓	133	126	103	83	72	65	71	91	103	95	88	79	81	88	88	76	89	73	61	80	87	87	82	84	87	0
30	✓	✓	✓	72	73	75	84	68	47	57	102	95	104	102	105	104	108	101	103	96	89	88	78	54	63	66	66	83	0
31																													
MEANS * 20 DAYS				95	98	98	98	90	81	77	80	88	89	87	87	90	88	91	92	93	91	85	86	85	90	91	92	89	
MEANS † 19 DAYS				94	96	96	98	90	82	78	81	89	90	88	88	91	89	92	93	94	92	85	87	86	91	91	92	90	
MEANS ‡ 11 DAYS				95	96	97	96	87	79	79	85	90	90	87	86	91	92	94	94	95	91	82	85	82	87	85	86	89	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z–=INDETERMINATE NEGATIVE VALU

TABLE 374

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	735.9	9.5	68	11.5	8.5	0.29	2.4	N	6	WNW	10	WSW	18	W	4	Cu; FrCu; StCu;CuNb	9-10	Cu; FrCu; StCu; CuNb	7-10	Rain at intervals
2	744.2	8.7	79	16.3	1.0	0.18	5.7	..	0	E	4	NW	6	NNW	1	CiSt; ASt; Cu; StCu	1- 6	CiSt; ASt; Cu; StCu	7- 8	Dew at night
3	740.0	12.5	68	17.2	5.0		2.0	..	0	N	12	NNW	13	NNW	7	CiSt; ASt; Cu; FrCu	6-10	CiSt; ASt; Cu; FrCu	6-10	
4	734.3	12.0	90	13.2	10.3	0.38	0.0	..	0	N	4	WSW	6	..	0	ASt; Cu; FrCu; Nb	10	ASt; Cu; FrCu; Nb	10	Heavy rains and showers from early hours
5	742.0	10.7	67	15.0	3.4	0.47	5.9	..	0	..	0	SW	4	..	0	Ci; CiCu; ASt; Cu	4- 8	CiSt; StCu; Nb	4-10	Light showers 14h to 18h
6	742.4	10.5	73	16.0	2.7	0.01	1.6	..	0	E	1	N	2	..	0	CiSt; ASt; Cu; CuNb	10- 3	CiSt; ASt; Cu; CuNb	3-10	Showers in am and at 16h3; dew at night
7	741.4	11.9	84	19.5	3.3	0.10	6.9	..	0	N	2	NW	7	NW	3	ASt; Cu; FrCu	1- 8	CiSt; ASt; FrCu; Nb	7-10	
8	738.4	12.3	92	16.8	11.3	0.05	6.0	NNW	2	WSW	14	W	17	WNW	4	FrCu; Nb	10	Cu; FrCu; Nb	10- 7	Rain after 0h and at intervals during day
9	740.8	14.0	81	17.7	6.8	0.02	4.8	WNW	4	WNW	14	W	18	WNW	2	ASt; Cu; FrCu; CuNb	3- 8	ASt; Cu; FrCu; CuNb	6- 8	Occasional showers during day; drizzling at night
10	744.2	14.0	92	18.3	10.5	0.19	5.3	..	0	WSW	2	WSW	8	..	0	FrCu; Nb	7-10	CiSt; FrCu; StCu; Nb	4- 6	Mist early; showers in am and to 15h; drizzle at night
11	746.4	13.5	82	19.5	11.2	0.07	2.2	..	0	..	0	WSW	1	..	0	ASt; FrCu; StCu	10- 5	ASt; FrCu; StCu	5-10	
12	744.1	14.6	88	20.0	7.3	T	3.9	..	0	NW	2	WNW	11	..	0	CiSt; FrCu; Cu; Nb	7-10	CiSt; FrCu; Cu; Nb	7-10	Fog until 7h5; occasional light showers
13	741.6	14.6	87	17.7	11.4	0.02	3.7	..	0	WNW	9	SW	11	SSW	1	ASt; StCu; CuNb	7-10	ASt; StCu; CuNb	7-10	Showers at intervals, some heavy
14	745.5	13.5	60	17.1	7.4	0.10	6.8	..	0	WSW	5	WSW	17	SSW	1	CiSt; Cu; FrCu	3- 8	Cu; FrCu	10- 1	Clear at night
15	747.1	13.6	62	18.5	5.1		1.5	..	0	NW	2	WSW	7	W	1	CiSt; CiCu; StCu	9-10	CiSt; CiCu; StCu	9-10	Dew early
16	744.6	14.0	81	20.0	5.0		8.5	..	0	N	1	WNW	6	..	0	ASt; FrCu	1-10	ASt; FrCu	5- 1	Mist until 7h5
17	742.5	16.3	58	21.0	10.5		7.6	WNW	2	NW	3	WNW	7	..	0	ASt; Cu	10- 4	CiSt; ASt	3- 1	Mist until 7h3; dew at night
18	740.7	15.6	71	20.5	5.0		4.0	..	0	N	2	WNW	15	SSW	1	ASt; StCu; Cu	9- 4	CiSt; CiCu; StCu; Nb	4-10	Light shower at 17h5; heavy shower at 21h5
19	744.4	15.6	61	20.0	10.9	0.04	2.2	..	0	W	2	SW	2	W	1	StCu	10	StCu	10- 1	Dew at night
20	745.9	14.8	68	24.4	5.0		10.7	..	0	ESE	2	..	0	..	0		0		0	Mist early; hazy; dew at night
21	740.5	19.0	60	26.4	6.6		10.9	..	0	..	0	WSW	6	..	0		0	Ci; ASt	1- 3	Overcast at 21h5, and dew
22	740.9	18.3	65	19.5	9.6		1.8	..	0	NW	9	WSW	7	..	0	ASt; FrCu; StCu; Nb	7- 8	ASt; FrCu; StCu; Nb	7- 8	Showers at intervals during day; nearly cloudless at 21h
23	747.2	13.4	62	18.0	6.0	0.06	4.9	..	0	..	0	SSW	6	SW	3	ASt; StCu	7-10	ASt; StCu	7-10	
24	747.8	14.7	64	19.0	2.6	T	5.8	..	0	..	0	SW	16	..	0	ASt; Cu; FrCu; Nb	8- 4	ASt; Cu; FrCu; Nb	4- 1	Mist early; few showers during day; nearly clear at 22h
25	747.9	13.0	54	19.1	0.7		10.6	..	0	SE	2	S	1	SSW	1	Cu	0- 1	Cu	0- 1	Mist early; hazy; dew at night
26	744.0	15.0	54	23.5	2.4		10.9	..	0	..	0	W	6	..	0	CiSt	0- 1	CiSt	0- 1	Fires nearby in E
27	740.6	16.0	63	20.8	1.7		8.6	..	0	NNW	4	WNW	16	NW	1	ASt	2- 8	ASt; Nb	7- 8	Dew early; rain at night
28	742.0	15.8	62	19.0	1.6	0.06	8.6	NW	2	WSW	12	WSW	18	..	0	ACu; FrCu; Nb	10- 4	ACu; FrCu	4- 6	Rain before 9h; hazy during day
29	749.4	12.0	54	20.9	4.0	T	11.0	..	0	ESE	8	E	1	..	0	Ci; CiCu	1- 3	Ci; CiCu; CiSt	4- 6	Hazy
30	743.6	15.7	64	23.4	2.5		10.8	..	0	S	2	W	7	..	0	CiSt; CiCu; StCu	6- 1		0	Hazy until 14h
31																				
SUM						2.04														
MEAN	743.0	13.8	71	19.0	6.3		5.9	0.5		4.3		8.7		1.0						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 375

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			140	140	116	126	60	122	138	154	140	142	161	140	160	(175)	151	165	140	156	144	165	169	174	180	189	148	2
2	✓	✓	✓	203	220	216	226	237	245	267	271	258	237	207	194	178	175	174	165	165	156	152	161	168	174	184	212	202	0
3	✓			236	231	254	267	251	250	249	241	218	201	184	169	165	163	163	164	169	166	168	174	175	166	178	137	197	1
4	✓			117	99	130	137	141	165	190	194	193	189	180	147	66	130	107	183	187	152	155	157	190	174	173	178	156	2
5	✓	✓		182	216	245	240	215	213	202	221	203	190	187	178	178	173	168	174	175	169	178	177	190	193	203	194	194	1
6	✓			203	216	243	231	216	236	225	241	237	226	218	207	203	188	211	216	103	240	218	212	187	194	204	217	212	1
7	✓	✓	✓	245	257	277	296	320	302	315	345	315	283	215	175	163	161	155	152	152	160	164	155	170	173	173	171	221	0
8	✓			150	155	160	163	165	166	178	175	165	144	150	152	155	(161)	152	160	161	159	160	163	161	160	169	173	161	1
9	✓	✓		157	166	163	160	165	160	164	163	156	155	155	155	155	161	161	163	168	168	177	165	156	155	156	152	161	1
10	✓			178	177	174	201	201	188	187	187	190	187	188	178	183	180	182	178	175	174	177	188	193	194	188	189	185	1
11	✓			201	196	204	201	203	199	179	178	177	180	173	177	175	175	180	179	178	174	177	188	188	189	187	[189]	185	0
12				[164	141	155	177	211	241	278	211]	194	185	179	177	166	161	161	151	164	168	161	163	175	177	177	175		0
13	✓			177	168	177	180	190	187	198	197	168	166	164	160	151	150	174	168	163	165	155	173	179	177	177	179	173	1
14	✓	✓	✓	188	190	177	187	206	213	218	225	185	165	163	155	155	155	155	160	156	163	163	163	161	161	163	170	175	0
15	✓	✓	✓	177	177	[173	190	199	217]	215	217	206	169	164	160	163	(163)	157	156	161	166	187	182	183	187	193	[178]	181	0
16	✓	✓		[212	165	166	177	206	235	241]	279	251	230	187	173	166	165	168	150	152	156	165	178	190	178	178	179	189	0
17	✓	✓	✓	187	193	175	175	175	178	180	178	169	163	157	156	155	152	152	155	156	159	156	164	173	185	199	196	170	0
18	✓	✓		203	207	225	240	272	283	290	315	271	204	164	155	144	144	147	155	155	151	150	142	154	155	154	154	193	1
19	✓	✓	✓	155	155	165	184	201	203	192	188	168	165	165	165	165	164	164	164	156	161	165	173	180	197	203	216	176	0
20	✓	✓		204	[190	169	89	184	173	203]	232	206	194	201	207	190	188	178	182	187	174	165	165	152	150	154	175	180	0
21	✓			179	194	193	180	163	144	152	165	190	217	190	203	179	163	151	146	149	144	144	152	165	183	190	180	172	0
22	✓			203	206	203	213	201	218	229	213	165	152	142	152	150	(151)	152	152	144	151	152	152	163	175	178	180	175	1
23	✓	✓	✓	178	175	178	188	190	203	203	201	185	178	170	165	168	163	163	164	163	164	156	164	169	177	185	187	177	0
24	✓	✓		213	229	229	251	278	279	305	211	199	171	168	165	160	152	156	157	154	165	165	165	166	165	168	180	194	1
25	✓	✓	✓	192	[203	203	207	216	169	156	230]	189	165	163	152	140	142	151	144	150	152	157	155	154	155	152	160	169	0
26	✓	✓	✓	155	163	165	163	[169]	154	174	165	175	168	178	188	180	175	174	161	160	160	164	165	180	188	182	188	171	0
27	✓	✓		194	203	217	[225	268	343	333	309	229]	165	156	150	140	140	142	144	149	144	140	144	141	140	140	140	187	0
28	✓	✓		140	145	154	144	141	140	147	142	140	138	140	140	140	146	142	144	147	149	145	154	159	157	155	155	146	0
29	✓	✓	✓	156	166	185	207	215	213	217	203	179	182	170	174	190	(163)	178	178	173	183	185	178	175	187	203	192	186	0
30	✓	✓	✓	207	226	251	235	283	321	302	206	175	165	163	161	155	150	150	149	145	151	149	156	169	178	179	194	192	0
31																													
MEANS * 29 DAYS				184	187	193	196	205	211	215	215	197	182	173	167	161	161	161	163	158	163	163	167	171	174	178	179	180	
MEANS † 19 DAYS				187	192	196	199	218	223	228	226	203	184	172	167	162	160	160	159	159	161	162	163	168	171	175	179	182	
MEANS ‡ 11 DAYS				186	193	197	205	219	220	222	221	200	185	174	168	165	160	161	159	158	161	163	165	171	178	183	188	183	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 376

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1931

DAY	*	†	‡	0-	-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			124	135	145	125	133	189	176	151	145	152	103	137	92	128	(137)	148	105	78	94	134	122	114	116	125	130	2
2	✓	✓	✓	134	135	152	194	198	218	213	240	253	233	216	208	186	178	178	169	166	160	148	146	156	158	164	176	182	0
3	✓			209	217	228	251	246	244	241	232	218	205	194	179	174	173	177	178	170	167	169	163	175	173	165	159	196	1
4	✓			92	180	167	135	79	94	135	164	179	204	196	217	233	187	234	171	161	185	177	189	166	139	156	135	166	2
5	✓	✓		131	154	196	186	166	166	163	147	145	156	162	168	169	166	168	156	146	135	126	138	155	155	148	159	157	1
6	✓			136	148	174	169	147	172	198	205	217	216	207	205	208	207	213	193	185	215	197	132	131	147	143	159	180	1
7	✓	✓	✓	186	213	254	237	281	294	312	318	302	282	221	189	185	179	169	163	156	156	154	156	158	159	165	158	209	0
8	✓			147	128	126	129	129	137	148	156	145	134	138	147	148	148	(154)	152	147	139	135	135	138	134	125	124	139	1
9	✓	✓		135	117	134	128	135	126	132	138	142	139	143	147	151	147	148	146	147	148	144	138	124	117	106	114	135	1
10	✓			126	120	99	116	106	110	120	138	148	148	164	172	168	166	168	163	152	144	135	125	132	135	117	103	136	1
11	✓			[111	115	126	111	114	146	124]	130	141	144	151	158	158	157	158	155	155	142	144	142	147	144	148	[135]	140	0
12				[121	90	84	124	166	191	212	183]	188	175	173	175	175	165	162	150	—	—	—	—	—	144	142	136		0
13	✓			142	138	136	145	152	144	163	168	165	161	156	149	152	155	152	163	148	141	114	123	128	115	103	106	142	1
14	✓	✓	✓	123	113	115	123	138	155	158	177	158	157	152	145	147	151	147	148	145	135	133	124	125	123	114	134	139	0
15	✓	✓	✓	124	124	[103	100	118	158]	155	196	185	145	147	143	145	148	(154)	155	145	137	144	141	138	144	147	[115]	142	0
16	✓	✓		[137	114	115	124	156	195	217]	260	244	225	177	176	180	179	173	147	152	143	139	143	156	147	138	147	166	0
17	✓	✓	✓	156	156	147	147	145	147	145	156	158	163	151	163	159	166	164	157	149	142	135	133	155	158	180	186	155	0
18	✓	✓		181	195	198	226	255	276	286	313	284	219	176	174	164	164	160	163	156	152	154	149	137	132	106	129	190	1
19	✓	✓	✓	117	126	135	140	154	156	147	156	145	145	145	154	148	154	149	145	142	135	122	124	135	148	170	186	145	0
20	✓	✓		179	[178	142	73	154	145	188]	214	214	205	207	207	196	187	177	173	177	159	152	145	128	106	120	144	165	0
21	✓			145	165	148	145	125	115	96	124	175	205	(219)	185	158	159	146	143	138	131	126	124	138	166	156	163	150	0
22	✓			179	178	178	176	176	195	209	205	168	162	144	156	138	135	(144)	144	133	133	124	121	123	134	138	137	155	1
23	✓	✓	✓	[133	112	126	102	137	156	145	155]	148	163	163	156	163	166	158	158	146	136	128	126	132	124	132	126	141	0
24	✓	✓		163	198	204	225	223	261	264	205	156	156	165	160	163	165	163	158	145	135	126	124	135	135	136	137	171	1
25	✓	✓	✓	159	[156	166	169	184	135	137	197]	195	176	175	165	143	143	145	137	143	135	142	135	125	124	128	118	151	0
26	✓	✓	✓	143	135	142	[132	137	122]	149	156	166	158	168	195	202	189	179	164	154	152	138	135	152	159	157	145	155	0
27	✓	✓		187	195	227	[194	284	345	337	321	231]	179	170	156	154	152	144	135	137	135	135	128	124	126	130	134	186	0
28	✓	✓		132	124	135	134	120	120	116	125	124	133	135	145	148	147	145	144	136	128	117	106	100	105	112	102	126	0
29	✓	✓	✓	95	113	129	[135	135	124	141]	186	177	190	179	188	199	175	(169)	169	154	167	169	157	156	166	189	182	160	0
30	✓	✓	✓	168	186	205	215	272	297	303	202	176	159	156	156	147	145	145	144	137	135	128	128	145	156	159	179	177	0
31																													
MEANS * 29 DAYS				145	151	156	155	165	177	183	191	183	176	168	169	165	163	163	157	149	145	140	137	139	139	140	142	158	
MEANS † 19 DAYS				146	150	158	157	179	189	195	203	190	178	169	168	166	163	160	154	149	143	139	136	139	139	142	146	161	
MEANS ‡ 11 DAYS				140	143	150	154	173	178	182	194	188	179	170	169	166	163	160	155	149	145	140	137	143	147	155	155	160	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 377

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			85	102	129	109	103	97	109	82	84	N 81	91	86	86	91	88	89	88	90	88	93	88	85	80	83	92	1
2	✓			84	88	94	97	92	74	76	72	69	65	72	66	62	68	72	86	75	70	53	76	84	88	63	66	76	0
3				71	66	53	53	50	49	57	66	76	80	80	79	79	80	89	89	95	95	92	84	79	—	—	109		0
4				116	108	114	138	110	86	54	65	88	84	80	73	67	75	74	75	75	76	75	70	—	—	—	—		0
5				210	278	Z+	Z+	353	303	202	116	95	81	66	79	78	83	93	88	50	N 49	75	72	89	94	−2	Z		1
6				119	137	141	157	151	147	129	123	N137	Z+	—	—	N110	126	115	107	119	124	128	114	123	104	114	124		1
7	✓	✓		118	106	109	116	116	95	99	101	97	71	68	91	84	88	91	89	94	N 71	101	82	98	95	70	91	93	1
8				—	—	—	—	—	—	—	90	96	89	90	91	89	89	93	95	97	93	95	92	90	95	99	102		0
9	✓			98	107	96	83	69	68	76	70	72	70	78	74	75	78	80	78	84	87	86	80	80	87	90	92	82	0
10	✓	✓	✓	91	93	94	87	84	75	71	73	71	66	65	69	66	63	70	71	74	75	78	78	76	71	71	72	75	0
11	✓	✓	✓	74	76	88	88	85	74	67	72	76	81	83	89	79	82	84	82	83	93	83	83	82	72	70	66	80	0
12	✓	✓	✓	61	66	59	57	53	49	45	46	55	56	62	58	61	64	69	69	72	67	53	51	36	47	61	61	57	0
13				45	40	59	72	57	50	53	70	75	63	61	65	66	71	57	76	67	47	Z+	88	41	85	96	99		0
14				86	107	—	—	—	—	—	—	74	57	N 44	N 58	50	46	62	71	61	69	74	80	70	74	74	94		1
15				90	—	—	—	—	—	68	66	72	74	73	75	73	75	72	67	65	65	70	66	69	80	81	87		0
16	✓	✓		90	97	93	79	71	52	67	59	67	68	68	70	70	71	73	84	84	85	96	95	95	91	98	101	80	0
17	✓	✓		92	80	70	68	58	49	48	48	60	66	74	72	71	71	74	73	74	89	85	82	84	89	100	97	74	0
18	✓	✓		89	92	87	89	75	58	53	61	56	65	68	66	75	75	74	78	80	90	84	74	90	92	80	78	76	0
19	✓	✓	✓	79	73	64	58	54	49	49	58	64	70	72	67	68	73	70	75	75	82	66	62	81	73	67	73	68	0
20	✓	✓	✓	66	71	77	79	73	63	63	63	63	60	66	64	71	63	65	63	66	66	57	54	60	73	63	66	66	0
21	✓	✓	✓	68	58	58	53	49	43	53	65	71	72	68	67	73	70	73	81	71	83	64	72	76	67	57	79	66	0
22	✓	✓		80	68	62	57	49	35	39	44	54	65	64	64	74	70	79	79	90	117	123	136	172	138	149	159	86	0
23				109	92	77	56	46	38	47	50	70	82	83	81	81	82	90	90	104	106	Z−	Z	Z	118	Z	Z		1
24				Z	N123	161	165	169	152	125	92	85	77	77	80	77	77	79	91	91	114	Z	Z	Z	51	85	77		1
25	✓	✓	✓	86	81	85	71	59	50	53	48	45	45	48	59	60	67	75	70	76	74	73	80	83	81	82	85	68	0
26	✓	✓	✓	74	92	100	105	87	58	58	51	43	43	45	52	58	61	69	60	58	58	67	73	78	79	77	71	67	0
27	✓	✓		79	61	68	49	33	32	72	91	83	74	73	77	90	106	96	101	98	100	97	94	102	105	104	98	83	0
28	✓			97	86	85	79	65	50	74	56	73	85	85	78	71	86	85	89	96	85	91	106	134	140	147	153	92	0
29	✓	✓	✓	152	130	106	98	88	81	75	76	73	77	76	79	87	92	99	103	103	99	102	105	127	147	158	143	103	0
30	✓	✓	✓	134	122	103	83	71	75	68	68	63	65	75	79	83	87	92	90	87	88	85	104	127	131	135	140	94	0
31				136	120	122	116	83	65	55	50	48	—	—	66	73	79	75	79	85	79	87	166	144	163	161	150		0
MEANS * 20 DAYS				90	87	86	80	72	61	66	65	67	67	70	71	73	76	79	80	81	83	82	84	93	93	91	94	79	
MEANS † 16 DAYS				90	85	83	77	69	59	61	64	65	65	67	70	73	75	78	79	80	84	82	83	92	91	90	92	77	
MEANS ‡ 10 DAYS				88	86	83	78	70	62	60	62	62	64	66	68	71	72	77	76	76	78	73	76	83	84	84	86	74	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 378

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	742.4	16.3	75	20.3	9.6	0.01	8.5	W	2	SW	8	SW	9	SW	1	Cu; FrCu; Nb	7- 8	Cu; StCu	4- 6	Mist early; some rain early
2	744.9	14.8	50	23.8	3.3	0.01	11.4	SSW	1	ESE	8	ENE	2	WSW	1	CiCu; CiSt	1- 3	CiCu; CiSt	1- 3	
3	741.9	16.4	60	22.9	3.5		10.9	..	0	..	0	WNW	7	..	0	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Dew early
4	741.5	20.0	67	25.1	3.6		6.6	..	0	NW	3	WNW	7	..	0	CiSt; Cu; FrCu; Nb	7-10	CiSt; Cu; FrCu; Nb	7-10	Dew early
5	737.9	17.6	79	24.9	11.0		0.3	..	0	NNE	2	NNW	15	NNW	8	ASt; StCu	10	ASt; StCu; Nb	10	Fog until 7.5; rain in evening
6	736.7	15.3	62	18.7	11.5	0.12	7.8	W	8	W	18	W	18	WNW	2	ASt; Cu; FrCu; CuNb	5- 8	ASt; Cu; FrCu; CuNb	7- 8	Few showers in am
7	739.8	17.0	48	19.2	8.1	0.02	7.3	WNW	2	WNW	11	WNW	17	WNW	1	Cu; FrCu; CuNb	10- 6	Cu; FrCu; CuNb	6-10	A few showers
8	744.0	13.2	68	17.5	7.2	0.03	6.9	WSW	1	SSW	5	SW	11	..	0	Cu; FrCu; StCu; CuNb	10- 7	Cu; StCu	6- 4	
9	747.8	13.3	52	18.3	3.2		10.4	..	0	ESE	6	SE	12	SSE	6	FrCu	1- 7	FrCu	7- 2	Dew early
10	749.0	12.8	47	18.9	6.4		9.5	SE	14	ESE	17	ESE	15	SSE	3	CiCu; CiSt; FrCu	1- 6	CiCu; CiSt; FrCu	4- 6	
11	748.3	15.3	40	21.2	6.0		11.1	SE	10	E	16	ESE	13	SSE	3	CiSt; ASt; FrCu	1- 3	CiSt; ASt; FrCu	1- 3	
12	745.0	18.4	30	29.1	6.2		10.8	SSE	2	E	11	E	10	SSE	8	CiSt; FrCu	1- 3	CiSt	1- 3	
13	739.6	24.0	40	28.9	14.3		6.9	NE	2	NNE	10	NNW	2	..	0	CiSt; FrCu; CuNb	1- 6	FrCu; CuNb; Nb	7- 8	Rain at 18h
14	737.3	16.5	90	19.0	14.2	0.06	2.6	WNW	2	WNW	7	W	11	..	0	CiSt; CiCu; FrCu; CuNb	10	CiSt; CiCu; Frcu; CuNb	10	Rain in am
15	743.7	14.5	54	16.5	8.5	0.03	4.4	SW	4	WSW	12	SW	9	S	2	Cu; FrCu; StCu; Nb	7-10	Cu; FrCu; StCu	7-10	Rain in early am
16	750.3	10.6	44	18.1	2.0		11.3	..	0	ESE	13	SE	12	SSE	2	CiSt; StCu	1- 3		0	
17	750.8	15.0	39	21.1	3.5		11.3	SSE	3	E	13	SE	13	SSE	2	CiSt	0- 1	CiSt	0- 1	
18	749.6	19.0	28	19.8	5.5		11.3	S	2	ENE	10	SE	11	SSE	2	FrCu	0- 1	FrCu	0- 1	
19	750.3	19.8	31	25.3	7.0		12.0	SSE	1	ENE	10	E	10	S	2		0		0	
20	749.4	21.5	31	27.8	9.1		11.6	ESE	1	NE	14	E	6	..	0		0		0	Fires in N, NE, and W
21	746.4	23.8	22	30.9	9.4		12.0	..	0	NE	12	NNE	3	SW	2	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Fires in SW
22	744.5	27.6	17	33.2	9.2		11.0	..	0	NNE	6	N	5	..	0	CiSt; StCu	8- 3	CiSt; StCu	1- 3	Smoky after 17h
23	745.2	26.2	23	30.2	7.7		8.8	..	0	N	1	WSW	9	SSW	10	CiSt; CiCu; ACu	1- 6	CiSt; CiCu; ASt; Cu	7-10	Hazy, possibly with smoke; rain at 22h5
24	747.3	20.7	58	29.7	11.4	T	11.8	SSE	1	SSE	4	SE	3	W	4	CiSt	1- 3	CiSt; ACu; FrCu; CuNb	4- 8	Thunderstorm at 18h5
25	744.5	24.5	42	34.3	14.7	0.21	11.7	SE	2	E	4	WNW	1	SSW	4	CiSt; ACu	1- 6	CiSt; ACu	4- 6	
26	741.8	25.9	39	35.3	13.3		10.4	S	1	SE	2	WNW	2	SSW	1	CiSt; Cu	1- 6	CiSt; Cu	4- 6	Fires in NW
27	738.7	26.7	43	29.4	10.1		11.3	SSW	1	..	0	WSW	12	SSW	7	CiCu; ACu; ASt	8- 3	CiCu; CiSt; ACu; ASt	3- 6	Hazy, probably with smoke
28	742.0	18.1	54	22.1	12.5		3.3	SSW	3	SE	17	SSE	9	SSW	8	CiSt; CiCu; ASt; ACu	10	CiSt; Cu; StCu	10	Clearing in evening
29	744.3	15.0	40	22.9	8.3		11.8	SE	6	SE	16	SE	10	SSW	6	CiSt	0- 1	Cu	0- 1	
30	743.4	18.6	43	26.1	9.0		11.9	S	2	ESE	8	SE	4	SSW	5		0		0	
31	742.4	24.5	26	28.6	8.4		12.0	SSW	2	E	2	..	0	S	4		0		0	
SUM						0.49														
MEAN	744.2	18.8	46	24.5	8.4		9.3		2.5		8.6		8.6		3.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 379

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				210	192	173	—	—	—	—	—	163	152	151	151	152	152	156	164	164	166	164	169	178	192	205	208		1
2				208	204	192	196	200	208	219	236	243	(233	214)	219	219	229	214	208	203	192	215	204	197	207	237	234		0
3	✓			242	278	306	296	289	286	260	238	208	182	169	163	153	151	151	155	159	153	148	152	155	159	159	156	199	0
4				167	⌈190	152	138	192	223	270⌋	233	164	153	152	162	160	158	160	159	155	151	153	145	151	155	⌈160	105⌋		0
5				⌈ 73	59	59	56	56	66	85	114⌋	151	156	158	166	164	164	151	137	133	134	142	142	127	126	≷136	134≶		1
6				153	140	137	137	137	138	140	149	≷158	162	137≶	(140)	151	(151)	145	155	160	153	155	159	164	169	178	169		1
7	✓	✓		174	181	178	164	175	182	184	177	166	158	167	167	164	163	163	164	160	160	163	171	173	178	178	181	170	1
8	✓			189	186	179	192	188	192	192	175	173	167	173	170	164	163	163	153	159	164	167	169	188	196	195	205	178	0
9				219	219	229	236	237	243	216	237	237	229	196	170	162	155	145	148	149	149	153	164	166	174	188	192		0
10	✓	✓	✓	196	203	208	222	226	230	237	249	238	219.	196	182	173	171	167	167	162	159	151	162	175	193	208	233	197	0
11	✓	✓	✓	233	230	234	243	247	251	260	269	233	230	210	188	175	153	148	141	141	140	151	164	178	196	219	230	203	0
12	✓	✓	✓	263	292	311	338	340	341	362	385	321	264	245	219	196	189	179	166	164	169	178	188	181	181	200	230	246	0
13	✓			284	297	232	204	207	225	236	184	153	155	164	158	156	(156)	155	153	138	140	147	159	162	134	129	145	178	0
14	✓			166	148	≷122	134	133≶	149	134	134	136	134	126	134	137	140	145	147	147	140	148	≷159	167	170	179	171≶	146	1
15	✓			149	151	153	156	169	169	174	167	164	162	160	155	153	151	151	155	159	167	153	162	163	164	177	164	160	0
16	✓	✓		162	151	159	178	195	211	203	201	189	175	164	138	126	121	114	112	112	110	114	123	134	147	147	151	152	0
17	✓	✓		166	188	211	245	277	311	329	310	263	222	197	186	182	170	149	142	141	141	148	155	163	169	156	158	199	0
18	✓	✓		178	190	200	225	247	306	362	[304]	270	237	199	178	188	169	159	151	140	141	147	155	160	175	195	205	203	0
19	✓	✓	✓	230	247	274	300	315	338	362	(315)	260	221	195	190	188	185	169	155	152	141	155	174	164	186	208	210	222	0
20	✓	✓	✓	233	275	292	251	243	(232	219	208)	196	186	182	178	175	(174)	166	164	162	164	181	193	210	204	222	234	206	0
21	✓	✓	✓	259	290	315	312	323	301	274	241	188	181	169	164	156	152	151	149	151	153	151	148	166	193	218	200	209	0
22	✓	✓		186	200	218	233	256	286	312	303	232	178	149	138	140	137	137	⌈ 97	100	86	85	99	96	125	114	114⌋	168	0
23	✓			⌈132	137⌋	178	256	306	322	315	288	222	177	167	163	155	145	141	133	132	133	≷122	123	110	129	123	110≶	176	1
24	✓			≷ 86	114≶	⌈123	112	112	112	132⌋	155	164	175	174	169	166	156	148	137	153	160	≷132	216	189	256≶	192	203	156	1
25	✓	✓	✓	196	219	232	260	297	311	311	312	285	288	262	241	210	173	163	159	158	185	181	177	169	175	173	167	221	0
26	✓	✓	✓	178	181	173	159	174	196	233	284	300	297	266	226	201	184	⌈147	121⌋	175	184	177	167	167	166	177	192	197	0
27	✓	✓		192	222	210	207	179	200	193	159	163	163	155	152	134	(126)	125	134	137	137	136	134	145	145	145	149	160	0
28				149	138	—	—	—	—	—	—	—	—	147	142	164	162	163	163	142	145	148	⌈134	105	99	108	116⌋		0
29	✓	✓	✓	⌈129	151⌋	182	195	201	192	190	192	190	178	167	159	145	136	134	127	126	126	126	134	⌈123	105	105	119⌋	151	0
30	✓	✓	✓	⌈137	151	186⌋	232	173	230	232	245	245	229	218	204	188	164	151	145	145	151	153	140	⌈123	121	121	123⌋	175	0
31				⌈121	123	133	156⌋	205	245	303	356	364	304	243	193	181	175	167	169	164	159	⌈137	67	100	103	101	107⌋		0
MEANS * 23 DAYS				190	204	212	222	229	242	248	239	216	199	186	175	166	158	151	145	147	148	148	158	159	168	171	176	186	
MEANS † 16 DAYS				194	211	224	235	242	257	266	260	234	214	196	182	171	160	151	143	145	147	150	155	158	166	174	181	192	
MEANS ‡ 10 DAYS				205	224	241	251	254	262	268	270	246	229	211	195	181	168	158	149	154	157	160	165	166	172	185	194	203	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				175	152	141	144	146	—	—	—	145	147	149	153	149	152	152	150	142	142	131	121	131	139	170	—		1
2				—	—	—	—	—	—	—	—	240	(235	222)	226	228	228	214	193	188	174	184	176	172	173	201	206		0
3	✓			222	239	266	297	312	305	274	231	197	182	174	164	157	149	145	146	143	133	120	121	124	123	126	124	186	0
4				122	⌈156	118⌋	—	—	—	—	—	—	159	147	157	161	155	153	152	142	139	131	126	123	⌈108	123	63⌋		0
5				⌈29	25	26	29	38	40	67	95⌋	130	148	151	161	165	163	153	143	142	129	—	—	—	—	—	—		1
6				—	—	—	—	—	—	—	—	≷138	121	142≷	(141)	151	150	(149)	149	142	133	131	139	131	139	144	131		1
7	✓	✓		131	144	144	144	139	153	152	155	148	155	162	165	169	165	159	161	150	145	139	148	142	142	155	150	151	1
8	✓			163	162	138	116	132	143	149	145	149	152	163	168	173	168	161	151	151	142	132	123	138	144	(143	150)	148	0
9				—	—	—	—	—	—	—	—	—	234	216	188	176	163	152	145	145	151	152	152	155	166	186	195		0
10	✓	✓	✓	202	205	207	220	224	233	238	249	250	236	215	199	186	188	179	175	165	165	153	153	163	180	206	235	201	0
11	✓	✓	✓	228	226	228	236	244	249	266	276	255	246	228	204	186	163	151	145	146	139	150	152	160	171	199	211	202	0
12	✓	✓	✓	240	277	288	311	332	316	381	407	346	289	255	235	206	195	181	173	171	171	159	166	186	181	192	215	245	0
13	✓			275	282	219	186	205	228	227	184	163	160	176	166	164	168	(163)	152	139	138	≷110	149	151	112	102	134≷	173	0
14	✓			160	122	≷99	114	111≷	131	119	131	131	132	130	130	134	142	142	135	134	131	131	135	145	156	163	142	133	1
15	✓			135	130	131	123	133	143	147	152	155	163	163	162	155	152	152	152	153	152	141	142	141	138	131	139	145	0
16	✓	✓		131	121	121	142	165	201	198	211	203	194	177	143	131	122	113	110	111	111	106	105	112	123	118	122	141	0
17	✓	✓		138	165	188	215	266	304	327	312	278	243	220	205	196	176	155	151	145	146	146	139	135	143	128	131	194	0
18	✓	✓		152	163	206	195	227	295	353	[307]	277	255	216	199	193	181	164	153	142	142	142	132	128	142	165	185	196	0
19	✓	✓	✓	194	209	243	258	284	303	355	(324)	269	232	216	205	204	197	175	160	152	142	153	152	133	152	177	183	211	0
20	✓	✓	✓	206	226	243	244	239	239	247	238	207	186	188	180	178	176	(172)	165	165	160	175	181	186	176	195	208	199	0
21	✓	✓	✓	235	275	302	322	327	316	273	243	184	181	171	163	155	145	141	138	148	131	145	132	145	171	192	172	200	0
22	✓	✓		165	189	195	222	256	299	321	312	251	188	152	143	147	151	143	⌈96	102	80	76	69	67	77	78	79⌋	161	0
23	✓			⌈94	118⌋	155	255	322	334	295	282	217	176	171	163	160	156	137	123	113	113	≷129	122	122	116	94	134≷	171	1
24	✓			≷114	95≷	⌈79	78	87	87	107⌋	148	(161)	173	176	166	160	151	142	130	141	139	≷119	82	229	268≷	184	182	142	1
25	✓	✓	✓	176	184	205	254	270	301	305	305	302	295	273	245	207	175	148	142	141	175	170	165	156	163	159	150	211	0
26	✓	✓	✓	163	163	145	138	158	189	222	279	304	308	286	234	203	174	⌈148	116⌋	170	174	172	158	148	145	159	173	189	0
27	✓	✓		171	194	186	183	173	186	171	134	141	155	149	143	123	102	(112)	120	123	121	118	120	126	124	128	128	143	0
28				130	117	120	133	⌈113	105	134⌋	186	183	172	157	152	183	173	171	161	134	137	137	⌈118	94	89	87	89⌋		0
29	✓	✓	✓	⌈102	120⌋	170	177	192	186	192	202	201	189	185	183	159	138	132	123	123	116	113	114	⌈110	95	88	94⌋	146	0
30	✓	✓	✓	⌈106	124	156⌋	204	229	225	239	253	256	243	232	212	191	163	138	131	135	138	132	120	⌈106	107	102	98⌋	168	0
31				—	—	—	—	—	248	304	370	378	312	251	189	174	163	152	150	144	142	⌈118	59	84	84	79	83⌋		0
MEANS * 23 DAYS				170	180	188	201	219	233	242	238	219	206	195	182	171	161	150	141	142	139	136	134	141	146	147	154	176	
MEANS † 16 DAYS				171	187	202	217	233	250	265	263	242	225	208	191	177	163	151	141	143	141	141	138	138	143	153	158	186	
MEANS ‡ 10 DAYS				185	201	219	236	250	256	272	278	257	240	225	206	188	171	156	147	152	151	152	149	149	154	167	174	197	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[123	95]	73	59	45	47	47	44	51	58	60	66	66	64	N 41	Z	Z	Z	Z	Z	Z	Z	Z	Z		2
2				Z+	80	55	71	49	Z+	Z	—	41	54	60	136	Z	Z	85	71	77	76	74	76	73	69	57	54		1
3	✓	✓		64	69	66	63	[71	68	81]	66	61	61	57	59	64	63	81	103	87	85	121	156	130	74	67	78	79	0
4	✓			81	81	85	82	69	71	65	60	57	58	54	51	52	59	60	77	66	62	70	71	65	89	90	90	69	0
5				71	-32	2	82	86	—	67	76	51	57	68	69	69	71	68	83	75	74	72	67	61	87	99	90		1
6	✓	✓	✓	90	89	93	92	86	83	73	76	77	85	85	89	92	95	94	97	102	99	98	104	103	106	98	90	92	0
7	✓	✓	✓	89	84	89	85	77	67	68	76	78	84	84	92	94	91	91	90	94	91	86	77	77	90	89	97	85	0
8	✓	✓	✓	104	95	74	60	52	40	41	50	57	65	62	63	64	69	77	80	76	73	66	64	95	96	104	108	72	0
9	✓	✓	✓	113	101	105	113	107	99	67	49	48	53	66	74	85	87	89	91	94	87	105	109	114	118	119	127	92	0
10	✓	✓	✓	131	133	128	118	104	99	98	114	112	105	95	91	100	104	114	113	103	103	95	106	113	107	87	82	106	0
11	✓			83	85	79	72	(57	62)	71	81	82	89	93	82	89	77	81	85	77	89	79	86	91	74	77	60	79	0
12	✓	✓	✓	62	61	54	47	50	40	63	72	69	75	68	76	73	81	76	72	77	78	66	72	73	79	82	82	69	0
13	✓	✓	✓	82	77	80	85	91	83	86	71	71	67	70	70	78	89	85	81	78	87	88	92	96	91	91	95	83	0
14	✓	✓	✓	100	109	84	77	81	82	79	87	96	95	107	101	97	108	118	116	109	125	108	109	110	100	89	90	99	0
15	✓	✓	✓	95	93	88	87	79	69	64	59	68	72	77	82	86	89	90	86	80	87	88	82	76	82	81	76	81	0
16	✓			72	72	73	73	66	59	59	55	53	54	57	60	63	59	62	60	62	68	68	79	85	87	82	83	67	0
17	✓	✓	✓	77	73	74	75	71	69	66	67	60	59	57	61	66	67	68	68	74	66	77	78	85	87	91	83	72	0
18	✓	✓	✓	73	65	64	63	59	53	51	50	53	57	65	66	72	71	62	69	68	63	63	71	80	78	72	66	65	0
19	✓	✓	✓	59	59	55	54	50	48	46	47	50	58	59	59	60	63	61	63	64	68	73	76	80	87	85	77	63	0
20	✓	✓	✓	70	71	73	73	65	60	62	66	68	[77]	73	72	77	78	68	70	77	86	85	86	83	83	80	77	74	0
21	✓	✓	✓	71	71	68	69	69	73	77	72	71	66	65	69	69	77	69	73	66	71	73	70	75	80	78	81	72	0
22	✓	✓	✓	74	86	80	80	80	71	69	65	72	72	74	71	73	80	77	77	77	78	76	68	69	66	63	59	73	0
23	✓	✓		67	66	74	73	71	68	68	74	73	69	[66	72]	71	67	77	83	72	87	71	63	73	[99	142	136]	78	0
24	✓	✓		[94]	69	63	47	41	45	57	71	73	69	65	68	65	[70	64	49	80	93	136	151	105	95	108	110]	79	0
25	✓	✓		[99	138	169	179	162	145	140	137	127	135	145	145	127	122	130	119	115	118	128	137	157	174	199	168]	142	0
26	✓	✓		[165	189	176	137]	116	108	98	86	79	82	78	81	83	90	94	92	90	95	[105	108	122	130	122]	103	110	0
27	✓	✓		91	95	99	89	86	72	68	65	63	63	67	72	78	80	81	99	83	100	99	104	108	113	[153	178]	92	0
28	✓	✓		[157	125]	104	78	54	52	67	73	76	75	78	81	85	88	99	87	90	84	76	104	[136	158	145	153]	97	0
29	✓	✓		[110	78]	63	57	47	46	48	62	69	56	55	66	71	80	86	77	71	77	88	[96	113	127	131	143]	80	0
30	✓	✓		[158	144	153	176	118	116	105]	99	101	96	99	104	104	108	113	115	119	126	[136	131	140	128	134	135]	123	0
31																													
MEANS * 27 DAYS				94	92	89	85	77	72	72	72	73	74	75	77	79	82	84	85	83	87	90	94	98	100	102	101	85	
MEANS † 24 DAYS				96	93	91	87	79	73	73	73	74	75	76	78	81	84	86	86	85	89	92	96	101	102	105	104	87	
MEANS ‡ 15 DAYS				86	84	81	79	75	69	67	68	70	73	74	76	79	83	83	83	83	84	83	84	89	90	87	86	80	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALU

TABLE 382

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	738.8	28.8	20	35.2	11.4		7.2	SE	3	NE	4	NE	3	NW	6	ACu; ASt; Cu; CuNb	2-10	ASt; Cu; CuNb	7-10	Rain after 12h; thunder and lightning at 21h
2	736.4	21.5	67	27.1	16.5	0.12	6.2	NNE	1	E	1	SSW	2	SSW	1	CiSt; CiCu; ASt; CuNb	10-6	CiSt; ASt; Cu	7-8	Rain early
3	737.8	22.5	62	27.8	15.1		6.9	..	0	S	1	S	8	NNE	2	CiSt; ASt; Cu; CuNb	7-8	Cu; StCu; CuNb	7-8	Lightning after 18h, and some thunder
4	740.1	20.0	61	22.7	13.0		4.5	S	2	S	7	SSE	10	SE	11	Cu	6-10	CiSt; ASt; Cu	10-6	
5	741.5	15.5	68	20.6	12.7		1.5	SSE	11	SE	15	..	..	..	0	FrCu; StCu; Nb	9-10	CiSt; FrCu; StCu	9-7	
6	742.7	14.5	52	21.4	7.3		11.7	SSE	6	SE	17	SSE	7	SSE	8	Ci; CiSt; ACu; FrCu	8-6	Ci; CiSt; FrCu	6-1	
7	744.9	14.0	53	20.6	5.5		11.9	SSW	2	SE	15	SSE	8	S	2	CiSt; ACu	1-3	CiSt	1-3	
8	745.3	20.1	41	26.1	7.6		12.0	..	0	E	5	SSE	6	SSW	4		0		0	Dew early
9	741.6	23.7	39	30.6	7.9		12.4	..	0	E	1	W	2	SSW	4		0	CiSt; ACu	1-3	Dew early
10	736.1	22.4	49	27.9	13.0		12.3	SW	4	SSW	3	WSW	10	WSW	3	Ci; CiSt	6-3	Ci; CiSt; Cu	1-3	Hazy throughout
11	736.4	17.8	62	22.1	9.0		6.3	..	0	WNW	8	W	14	SW	2	CiSt; ASt; Cu; FrCu	6-10	CiSt; ASt; Cu; FrCu	7-10	
12	740.6	16.8	48	23.7	8.0		9.9	..	0	SSW	6	SSW	5	SW	7	CiCu; ASt; FrCu	7-8	StCu; FrCu	6-3	Dew early
13	742.2	18.5	52	23.8	8.9		12.4	SW	1	SSW	3	SSW	7	SSW	4	FrCu	1-8	FrCu	8-3	Dew early; hazy
14	744.2	14.0	40	23.1	8.5		12.7	SSE	10	SSE	18	SE	12	SSE	3		0		0	Hazy
15	745.9	16.5	39	25.5	9.0		12.3	SE	12	ESE	15	SE	8	S	2	Ci; CiSt; ACu	1-3	Ci; CiSt; ACu	4-6	
16	745.3	20.4	33	27.0	11.6		12.1	SE	8	ESE	8	ESE	9	SSE	3	CiSt	0-1	CiSt	0-1	
17	743.6	20.0	36	27.9	11.8		12.2	SE	6	ESE	8	E	4	SSE	2		0	CiSt	0-1	
18	742.4	26.8	22	29.8	13.0		11.7	SE	6	ENE	9	ESE	4	ESE	8	Ci; CiSt; CiCu	1-3	Ci; CiSt; CiCu	1-3	
19	745.8	23.8	27	29.4	14.6		12.0	ESE	8	ENE	14	E	8	ESE	8	CiSt; Cu; StCu	1-3	CiSt; Cu; StCu	4-6	Fire in distant NW; clouds clearing in evening
20	746.9	22.5	30	28.3	14.0		12.2	ESE	5	E	14	ENE	9	E	2	CiSt	1-3	Ci; CiSt; CiCu	4-6	Fire nearby 8h7 to 10h, making much smoke
21	745.8	23.1	28	28.9	14.5		12.3	E	2	ENE	15	ESE	6	SSE	2	CiSt	0-1	CiSt	0-1	Fires in NW and SW
22	744.6	25.0	23	31.1	15.5		12.2	E	4	ENE	15	E	9	SE	3		0		0	Thin haze over part of sky; fire in NW
23	743.8	26.9	19	32.9	15.5		11.8	ENE	5	NE	12	NE	2	..	0		0		0	Hazy with smoke in W; nearby fire at 10h5
24	741.6	29.4	15	36.0	14.5		11.9	..	0	NNE	10	WNW	7	SSW	2	Ci; CiSt; Cu; StCu	3-6	Ci; CiSt	6-1	Smoky in pm
25	740.4	23.1	57	30.7	13.0		9.1	SW	3	SSW	4	SSW	7	SSW	6	Ci; CiSt; ACu	7-8	Ci; CiSt; ACu	7-8	Smoky
26	742.8	19.0	40	27.8	12.5		12.3	S	2	ESE	13	ESE	5	SE	3	Ci; CiSt; ACu	1-3	Ci; CiSt	1-3	Smoky
27	742.8	22.3	32	31.1	12.4		12.4	ESE	7	ENE	8	ENE	2	SSE	2	Ci; CiSt	1-3	Ci; CiSt	1-3	
28	740.8	28.0	18	34.4	14.6		11.0	SE	1	NNE	9	ENE	1	SE	3	CiSt; CiCu; StCu	2-6	CiSt; CiCu	7-8	
29	738.0	30.4	15	31.3	13.5		4.1	..	0	NNE	12	WNW	6	WSW	4	CiSt; CiCu; ACu	6-8	CiSt; CiCu; ACu	7-8	Dew at night
30	741.8	20.5	57	27.7	10.5		11.3	..	0	SSW	5	SSW	5	SW	6	Ci; CiSt; CiCu; StCu	9-3	CiSt	1-3	Slightly hazy
31																				
SUM						0.12														
MEAN	741.0	21.7	40	27.8	11.8		10.3		3.6		9.2		6.4		3.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.85 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			⌈127	155⌋	216	257	289	292	323	331	266	200	175	165	155	155≷	155	96	113	123	155	116	173	116	138	214≷	188	2
2				≷207≷	176	158	175	179	179	≷176	212≷	197	171	165	169	≷138	157≷	164	154	155	152	151	152	158	172	189	192		1
3	✓	✓		182	175	189	185	⌈143	123	116⌋	154	159	166	178	183	190	(180)	180	182	183	165	161	157	165	180	183	217	171	0
4				—	—	—	—	—	—	—	—	—	179	176	178	172	179	171	169	164	168	171	171	161	171	183	178		0
5	✓			179	≷166	179≷	192	195	≷182≷	188	183	175	173	166	172	168	169	169	165	154	145	145	158	176	176	172	186	172	1
6	✓	✓	✓	192	196	189	196	193	200	197	182	158	131	109	101	101	97	93	93	94	107	113	123	161	175	179	196	149	0
7	✓	✓	✓	209	212	212	223	228	237	248	212	183	171	144	125	121	117	109	113	113	121	140	141	144	149	140	138	165	0
8	✓	✓	✓	145	161	195	212	254	324	355	313	224	183	161	131	155	169	155	152	149	152	159	165	141	137	127	125	185	0
9	✓	✓	✓	125	127	131	133	138	140	196	295	310	258	217	186	180	173	161	164	158	165	151	143	145	135	127	130	170	0
10	✓	✓	✓	141	141	143	147	151	151	145	117	114	127	141	151	144	(128)	109	117	128	141	149	152	157	165	186	200	144	0
11				212	223	216	226	241	244	202	168	155	144	140	135	138	141≷	128	113≷	137	141	144	144	149	155	166	173		0
12	✓	✓	✓	190	195	186	193	212	216	183	145	173	164	161	151	151	152	143	128	141	141	127	130	140	141	141	141	160	0
13	✓	✓	✓	124	127	169	178	165	155	155	155	141	140	141	144	137	131	133	130	123	123	131	138	143	144	151	151	143	0
14	✓	✓	✓	151	155	155	155	161	161	166	169	154	157	144	131	113	101	104	104	104	103	110	114	138	155	179	196	141	0
15	✓	✓	✓	183	193	202	197	200	212	220	221	213	217	213	199	185	172	172	171	166	158	155	158	166	165	182	202	188	0
16				233	238	238	240	251	258	272	282	259	—	—	—	—	—	—	—	—	—	—	—	—	188	195	203		0
17	✓	✓	✓	216	231	240	255	257	261	255	274	283	268	244	(227)	207	(192)	175	169	165	161	155	155	166	169	155	173	211	0
18	✓	✓	✓	203	226	238	252	258	283	310	298	255	216	197	172	166	158	154	149	144	151	155	154	147	158	175	213	201	0
19	✓	✓	✓	254	276	306	300	286	288	296	268	214	188	166	155	145	147	145	141	143	145	149	140	152	169	169	188	201	0
20	✓	✓	✓	214	228	230	217	217	223	237	213	188	⌈130⌋	159	152	152	148	143	134	133	134	143	157	161	180	199	220	180	0
21	✓	✓	✓	251	254	279	275	266	244	212	193	189	189	171	158	159	155	155	152	152	155	157	157	166	175	189	213	194	0
22	✓	✓	✓	237	238	251	257	255	255	227	210	182	173	171	151	152	154	155	149	157	161	165	169	179	202	228	254	197	0
23	✓	✓		254	266	257	262	252	254	240	209	183	158	⌈121	127⌋	149	151	151	145	141	138	155	166	183	⌈180	124	138⌋	184	0
24	✓	✓		⌈179⌋	237	262	272	268	266	244	195	165	138	131	140	131	⌈ 73	75	113	117	99	94	75	110	133	114	113⌋	156	0
25	✓	✓		⌈121	110	101	97	96	79	99	101	97	90	85	86	94	96	72	82	89	97	103	114	110	104	101	103⌋	97	0
26	✓	✓		⌈103	99	113	161⌋	179	166	168	173	171	169	169	161	154	151	154	138	127	133	137	144	149	159	171	188	152	0
27	✓	✓		212	213	221	226	228	240	255	258	245	238	216	206	195	188	183	182	182	169	173	169	180	186	⌈130	113⌋	200	0
28	✓	✓		⌈124	169⌋	203	250	282	282	272	237	188	173	168	173	168	168	168	165	164	159	164	133	⌈111	99	100	103⌋	176	0
29	✓	✓		⌈164	224⌋	271	261	272	295	296	235	186	214	193	168	152	137	131	144	137	128	131	135	127	128	125	116	182	0
30	✓	✓		113	123	124	101	145	141	172	143	130	130	138	140	135	134	138	135	135	135	124	125	116	127	127	125	132	0
31																													
MEANS * 26 DAYS				177	188	202	210	215	218	222	211	190	175	165	156	152	146	142	139	139	139	142	142	150	154	154	168	171	
MEANS † 24 DAYS				179	191	203	209	213	216	219	207	188	174	164	155	152	145	140	140	139	139	142	142	148	155	154	165	170	
MEANS ‡ 15 DAYS				189	197	208	213	216	223	227	218	199	181	169	156	151	146	140	138	138	141	144	146	154	161	168	183	176	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 384

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[99	126]	201	245	274	273	322	333	267	197	170	159	145	136	≷149	166	111	113	210	180	191	177	101	25≷	182	2
2				≷219≷	156	153	----	----	----	----	----	----	167	169	154	≷149	157≷	155	148	146	146	139	123	136	149	164	169		1
3	✓	✓		167	153	165	167	[118	97	99]	145	148	157	171	173	183	180	(179)	172	173	157	146	123	141	159	156	146	153	0
4				155	165	162	157	173	178	190	204	189	188	191	191	188	184	181	167	169	171	179	166	177	174	175	177		0
5	✓			188	≷188	202≷	186	191	≷212≷	195	202	206	201	184	192	183	184	180	171	161	153	149	157	149	147	144	169	179	1
6	✓	✓	✓	183	193	185	175	172	170	192	202	177	138	112	99	99	91	88	91	88	103	107	113	147	154	145	154	141	0
7	✓	✓	✓	189	179	184	199	209	223	256	240	209	194	157	131	123	113	103	111	107	121	133	128	130	131	123	119	158	0
8	✓	✓	✓	144	142	180	209	248	314	368	330	234	195	169	131	155	166	157	152	148	153	154	146	134	130	112	111	182	0
9	✓	✓	✓	107	115	107	109	116	122	191	298	321	272	223	188	172	169	154	146	140	150	134	125	122	115	107	107	159	0
10	✓	✓	✓	103	110	119	136	136	139	138	104	104	115	123	132	130	121	(121)	97	113	123	128	121	121	123	(142	154)	123	0
11				----	----	----	----	----	----	----	----	----	146	137	142	138	145	≷133	103≷	126	126	124	115	107	107	142	161		0
12	✓	✓	✓	178	175	180	180	194	208	180	141	170	162	157	147	146	146	137	121	133	124	111	115	115	123	122	121	149	0
13	✓	✓	✓	109	107	157	177	165	157	158	166	139	141	145	146	136	130	125	123	115	115	121	126	126	130	126	132	136	0
14	✓	✓	✓	126	126	131	128	126	136	156	169	166	170	157	141	118	98	98	99	98	97	105	100	106	121	159	183	130	0
15	✓	✓	✓	181	186	194	189	194	204	212	219	217	228	217	210	193	181	175	169	161	149	146	142	137	137	147	177	182	0
16				209	215	230	229	237	252	266	273	263	[212]	234	211	195	184	173	170	157	150	149	126	125	140	150	157		0
17	✓	✓	✓	191	212	224	241	244	247	251	262	283	273	243	223	197	190	165	149	146	146	142	125	128	137	123	145	195	0
18	✓	✓	✓	189	204	221	234	246	261	293	294	255	223	192	166	149	146	140	134	130	136	134	130	134	145	165	205	189	0
19	✓	✓	✓	240	268	286	286	273	274	276	252	210	179	149	138	136	136	134	128	126	130	136	124	134	149	148	161	186	0
20	✓	✓	✓	188	203	203	194	191	196	209	191	162	[106]	132	124	126	122	115	110	100	99	106	111	118	130	147	170	148	0
21	✓	✓	✓	196	201	217	213	194	182	166	158	157	161	147	130	126	122	123	124	122	122	116	110	105	109	133	158	150	0
22	✓	✓	✓	192	198	198	198	194	196	180	169	157	125	124	125	125	124	123	119	125	121	124	121	115	141	161	178	151	0
23	✓	✓		195	204	199	197	193	199	183	150	134	121	[92	87]	110	107	101	97	98	88	91	116	121	[101	67	82]	131	0
24	✓	✓		[115]	169	201	219	221	212	189	138	116	94	92	104	98	[47	64	75	75	63	63	47	65	87	74	75]	113	0
25	✓	✓		[87	75	62	58	54	50	71	75	68	62	58	58	63	60	50	54	63	69	73	73	68	67	62	63]	64	0
26	✓	✓		[63	52	54	100]	136	133	138	154	148	149	149	144	132	125	124	104	99	104	[103	91	91	99	113]	146	115	0
27	✓	✓		159	159	172	184	183	195	210	210	205	202	180	169	154	152	147	138	139	129	121	98	113	123	[83	67]	154	0
28	✓	✓		[74	98]	121	152	201	202	197	183	153	137	133	124	123	125	116	116	107	107	110	87	[65	50	43	59]	120	0
29	✓	✓		[87	154]	191	209	218	221	222	175	146	177	155	133	116	99	99	110	109	99	98	[91	85	69	75	71]	134	0
30	✓	✓		[54	47	50	42	82	79	110]	107	101	104	110	110	101	103	111	111	107	99	[87	91	79	87	87	87]	89	0
31																													
MEANS * 29 DAYS				145	155	169	178	184	189	199	195	179	165	152	142	136	130	126	123	119	118	121	115	117	121	118	126	147	
MEANS † 24 DAYS				145	155	166	175	180	184	194	189	174	162	149	139	134	127	123	119	118	117	116	111	112	117	118	128	144	
MEANS ‡ 15 DAYS				165	174	185	191	193	202	215	213	197	179	163	149	142	137	131	125	123	126	126	122	125	132	137	152	158	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 385

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				⌈149	166	184⌋	—	—	—	88	79	74	82	78	78	90	91	104	99	⌈103	109	132	154	140	143	143	155⌋		0
2	✓	✓	✓	⌈150	167	153	126	90⌋	67	68	69	63	62	69	76	89	84	89	82	86	89	⌈116	135	164	158	145	127⌋	105	0
3	✓	✓	✓	⌈114	104⌋	86	71	58	47	45	42	47	54	53	59	72	80	87	80	86	89	87	93	74	65	63	71	72	0
4	✓	✓	✓	72	57	57	53	45	42	41	53	62	58	66	67	78	77	88	84	82	104	83	67	73	75	70	76	68	0
5	✓	✓		74	80	81	76	69	63	66	71	84	72	78	73	89	90	91	87	93	93	98	⌈297	300	223	251	264⌋	119	0
6	✓	✓		⌈239	241	237	184	165	137	97⌋	58	60	66	71	80	82	102	103	90	85	88	90	⌈148	196	287	282	228⌋	142	0
7	✓			⌈222	126⌋	115	108	95	78	62	58	52	50	50	61	69	71	71	80	75	85	⌈136	122	110	163	206	242⌋	104	0
8	✓	✓		⌈263	256	251	218	139	79⌋	50	(50)	58	61	67	85	72	78	82	104	82	76	⌈166	106	85	73	116	156⌋	116	0
9	✓	✓		⌈153	167	165	153	122	124	98⌋	67	56	49	48	56	61	60	69	74	90	85	104	⌈218	248	172	179	165⌋	116	0
10	✓	✓		⌈184	176	99⌋	67	54	53	49	50	49	53	65	⌈91⌋	74	91	⌈104	104	142	140	147	184	149	134	155	165⌋	107	0
11	✓	✓		⌈195	195	202	180	147	120⌋	126	128	116	104	97	91	94	100	108	112	109	113	111	127	122	⌈130	130	151⌋	130	0
12				⌈138	148⌋	—	—	—	—	81	80	76	74	66	66	73	82	91	94	100	109	111	105	104	111	⌈144	132⌋		0
13	✓	✓	✓	⌈126⌋	103	72	66	67	61	58	56	59	65	67	76	86	92	87	89	100	84	91	87	107	103	103	100	84	0
14	✓	✓	✓	88	64	48	41	35	33	40	56	59	52	47	53	68	75	85	86	94	104	108	135	143	144	139	121	80	0
15				117	—	—	—	—	—	108	114	95	93	86	82	90	85	94	92	98	109	122	122	122	103≷	Z	143≷		1
16				≷Z	Z	N 7	N 1	19	59≷	113	110	94	71	89	87	78	80	88	99	93	93	106	122	123	118	118	122		1
17	✓			107	104	78	69	77	65	75	79	83	90	89	90	91	91	103	104	122	120	121	130	131	119	112	115	99	0
18	✓			113	112	104	81	69	67	⌈83	113⌋	86	89	89	95	94	102	104	108	109	114	⌈139	145	152	149	132	132⌋	108	0
19	✓	✓		114	113	95	80	77	63	66	94	89	82	91	91	82	91	94	94	108	107	112	132	118	121	⌈144	154⌋	100	0
20	✓	✓		⌈165	172	176	139⌋	100	82	75	77	80	77	82	91	91	96	99	112	103	112	127	119	126	⌈134	157	167⌋	115	0
21	✓			⌈180	157	135	112⌋	67	66	66	63	60	67	69	77	85	89	92	95	96	(102)≷	108	104	108	112	120	98	97	0
22	✓	✓	✓	78	77	67	64	64	54	57	68	61	72	73	88	90	81	87	85	89	75	82	83	91	98	90	108	78	0
23	✓	✓	✓	109	55	35	27	27	24	37	69	89	89	99	95	87	97	81	80	86	91	96	108	99	101	113	121	80	0
24				≷91	55	91	Z	Z	N 31	Z	Z	39≷	62	53	49	77	80≷	67	Z	Z	Z	Z	Z	Z	Z≷	73	66	84		1
25				84	108≷	Z	Z	Z	Z	Z	Z	Z	Z	Z≷	67	67	73	87	85	80)	82	88	85	88	89	76	61		2
26				65	71	69	58	61	59	—	—	49	59	57	54	51	54	64	62≷	Z	Z	Z	Z	Z	Z	Z	Z≷		2
27				≷55≷	77	103	95	99≷	Z	Z	Z	Z	Z+	76	Z	Z	Z	130	85	76	Z	Z	Z	91	94	91≷	81		2
28	✓	✓		81	81	73	67	54	49	50	47	54	50	55	57	62	64	72	74	67	60	61≷	76	204≷	80	81	89	71	0
29				76	89	73	62	63≷	Z	Z	Z	Z	Z	−5	94≷	61	62	59	60	64	59≷	67	91	Z	114	82≷	66		2
30	✓	✓		56	55	54	69	⌈127	99	106	114⌋	98	92	89	90	100	104	99	97	92	99	99	126	122	107	91	90	95	0
31	✓			96	102	103	94	73	63	81	80	86	69	91	71	71	⌈72	91	81⌋	81	(92)	96	107	112	117	113	105	89	0
MEANS * 22 DAYS				135	126	113	98	83	70	68	71	70	69	73	78	81	86	90	91	94	96	108	130	138	130	136	138	99	
MEANS † 17 DAYS				133	127	115	99	85	70	66	69	70	68	72	78	81	86	90	90	94	95	105	132	142	130	136	138	99	
MEANS ‡ 7 DAYS				105	90	74	64	55	47	49	59	63	64	68	73	81	84	86	84	89	91	95	101	107	106	103	103	81	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 386

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1931

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.3	22.0	44	30.6	13.0		13.1	SSW	3	SSE	16	SSE	8	SSW	9	CiSt	0- 1	CiSt	0- 1	Dew early
2	741.0	26.8	34	35.7	13.5		11.2	SSW	2	SE	7	..	0	SSW	9	Ci; CiSt	2- 8	Ci; CiSt; ACu; Cu	7- 8	Lightning in NE at 21^h
3	740.6	32.5	23	37.9	17.9		12.3	S	2	ESE	9	SE	4	SSE	2	ACu	1- 6	ACu	1- 6	
4	741.2	33.5	19	37.1	16.5		12.8	SE	5	ENE	12	SE	5	SSE	2		0		0	
5	740.9	32.1	16	38.0	20.1		12.9	E	8	ENE	12	S	1	SW	4		0		0	Smoky in late pm
6	741.3	32.5	14	38.8	15.0		12.8	SSW	2	NE	4	SSW	2	SW	4		0	ACu	1- 3	Fire in distant NW
7	740.2	31.1	21	28.4	19.5		11.9	SSE	7	ESE	6	NE	2	SW	4	CiSt; CiCu; Cu	1- 3	CiSt; CiCu; Cu	3- 6	Smoky in pm
8	737.3	32.5	10	40.2	17.4		11.0	SSW	2	NE	7	WNW	2	SSW	1	CiSt; CiCu; Cu	1- 6	CiCu; Cu	4- 6	Smoky in am and early pm
9	736.8	32.5	22	37.8	17.6		9.0	..	0	SSE	7	S	8	SSW	1	ACu; Cu	4- 6	Cu	4- 6	Somewhat smoky in late pm
10	735.7	30.5	22	36.1	20.8		10.4	SSW	1	ESE	2	W	15	WSW	6	ACu; Cu	3- 6	ACu; StCu	4- 6	Smoky in late pm
11	741.6	23.0	52	30.7	15.9		12.3	SSW	1	SW	7	SSW	8	SW	7		0		0	
12	742.7	25.4	27	32.8	15.0		13.8	SSW	1	SE	10	SSE	8	S	3		0		0	Dew early; somewhat smoky
13	739.9	27.9	31	27.8	17.0		12.6	S	3	ESE	9	ENE	3	SW	2		0	ACu	0- 1	Sky somewhat hazy
14	736.2	31.5	23	34.4	18.1		9.0	..	0	NE	6	WSW	12	SW	2	ACu; ASt	7- 3	ACu; ASt	1- 3	
15	738.4	24.3	55	30.8	14.8		12.1	..	0	WSW	4	WNW	8	WSW	5	FrCu	0- 1	FrCu; StCu	1- 3	
16	738.2	21.0	50	24.4	15.5	0.02	8.3	..	0	W	8	WSW	11	SW	4	ACu; Cu; FrCu	8- 3	Cu; FrCu	4- 6	Showers in early hours; cloudless at night
17	740.0	20.0	41	26.7	6.6		12.6	..	0	SSE	4	W	3	WSW	2	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Cloudless in evening
18	739.7	20.7	56	24.2	9.5		9.0	..	0	WSW	12	WSW	12	SW	4	Ci; Cu; FrCu	8- 4	Ci; FrCu	4- 6	Cloudless in evening
19	742.1	20.0	56	20.0	7.2		12.1	SSW	1	S	7	SW	7	SW	6	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Cloudless in evening
20	741.7	22.0	40	28.4	12.6		12.7	SSW	4	SE	9	S	5	SSW	7	Cu	1- 3	Cu	4- 6	
21	741.3	25.5	31	31.8	11.6		12.7	S	2	ESE	10	ESE	2	S	2		0		0	Some smoke haze
22	739.3	31.2	20	37.9	18.1		11.8	SSE	1	ENE	13	ENE	3	SW	2	CiSt; ACu; ASt; StCu	1- 6	CiSt; ACu; ASt; StCu	4- 6	Cloudless in evening
23	737.3	34.5	141	39.7	19.2		11.2	..	0	NE	13	WNW	10	SSW	2	FrCu; Cu	1- 6	Cu; CiSt; CiCu	7- 8	
24	736.8	27.0	46	33.7	20.4	0.01	0.4	..	0	ENE	1	WSW	15	SE	8	ACu; Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Steady rains after $15^h.4$; lightning at 20^h; showers in eve.
25	742.1	19.0	91	30.0	17.4	0.51	4.7	SSW	3	E	7	NNW	1	SW	2	StCu; Nb	10- 7	StCu; Nb	6- 4	Frequent rains in early am
26	740.8	26.5	49	35.9	17.5		10.3	SSE	2	SE	10	E	2	NW	8	Cu; StCu	1- 6	Cu; Nb	7- 8	Thundershowers in evening
27	738.9	28.4	42	31.9	19.0	0.02	3.4	ENE	6	ENE	8	ESE	6	..	0	CiCu; ASt; Cu; CuNb	7-10	CiCu; ASt; Cu; CuNb	6- 3	Lightning and thunder in early am; thundershower at 12^h
28	738.4	26.7	46	36.3	16.1	0.09	12.0	SSE	1	SE	8	N	2	ESE	2	CiSt	4- 6	CiSt; Cu; CuNb; Nb	6- 8	Thunder and lightning in evening
29	737.1	25.5	67	36.7	20.0	0.02	7.3	SSE	1	E	3	E	5	W	2	Ci; ACu; FrCu; CuNb	7- 9	Ci; ACu; FrCu; CuNb	4- 8	Thunderstorm 8^h–9^h
30	735.7	26.7	60	32.2	18.0		11.3	..	0	N	5	NW	11	WNW	3	Cu; FrCu	1- 3	Cu; FrCu	4- 6	
31	737.7	20.0	90	29.9	15.5	T	8.8	..	0	W	7	WSW	9	SW	4	Cu; FrCu; Nb	9- 4	Cu; FrCu; Nb	4- 8	Light rain at 9^h
SUM						0.67														
MEAN	739.5	26.9	39	33.6	16.1		10.5		1.9		7.8		6.1		3.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 387

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[120	113	112	113	149	188]	186	174	174	174	164	154	154	151	(148	145)	[132	122	107	94	106	112	114	114]	138	0
2	✓	✓	✓	[113	104	117	145	187]	207	222	244	249	243	222	188	181	175	162	158	154	142	[112	102	87	102	102	107]	159	0
3	✓	✓	✓	[122	146]	184	236	274	306	334	328	261	207	174	158	149	146	141	141	128	119	130	130	158	177	199	194	189	0
4	✓	✓	✓	231	246	267	287	304	309	334	265	197	162	144	144	142	139	138	133	133	129	126	129	161	181	200	213	196	0
5	✓	✓		222	240	216	216	219	216	194	161	145	130	130	133	139	130	126	125	120	119	120	[30	41	71	58	58]	140	0
6	✓	✓		[61	68	70	77	81	90	122]	215	215	180	164	149	139	142	130	129	114	112	87	[58	71	61	58	58]	110	0
7				—	—	—	—	—	—	—	—	—	—	—	171	157	142	142	133	130	126	[57	84	102	86	84	68]		0
8	✓	✓		[57	57	58	72	102	174]	274	273	216	213	162	144	130	133	122	119	117	128	[55	109	144	129	100	83]	132	0
9	✓	✓		[72	75	72	71	93	99	97]	141	165	157	154	149	146	135	132	125	106	112	112	[54	54	72	71	70]	106	0
10	✓	✓		[70	78	160]	207	204	219	228	243	248	234	199	[138]	144	129	[106	102	86	83	77	77	94	94	90	96]	142	0
11	✓	✓		[104	107	116	106	107	116]	116	112	113	119	129	130	130	132	126	116	129	129	139	142	141	[129	129	119]	122	0
12	✓			[112	113	112	120	162]	170	161	161	171	171	170	164	162	148	154	142	136	132	132	139	146	151	[125	129]	145	0
13	✓	✓	✓	[145]	181	232	251	232	241	260	274	248	226	213	200	186	175	168	162	164	160	160	154	130	168	157	157	194	0
14	✓	✓	✓	199	262	328	346	336	368	318	220	186	213	206	190	148	133	114	117	117	128	132	129	119	119	112	117	194	0
15				[102	135]	129	130	117	119	130	116	—	—	—	—	—	—	—	—	—	102	100	102	104	110}	91	130}		1
16				} 28	107	157	130	135}	117	123	126	126	122	113	113	114	(107	112	116)	117	125	122	122	120	128	130	141		1
17				156	162	186	190	188	187	188	154	142	135	133	129	116	130	130	128	[100	84	99	106]	130	133	142	154		0
18				154	161	173	193	219	—	—	—	125	—	129	126	128	129	128	122	116	112	116	119	120	120	130	139		0
19	✓	✓		158	171	183	203	200	216	222	165	139	129	128	128	128	119	125	117	117	116	114	112	119	120	[117	112]	144	0
20	✓	✓		[107	104	103	128]	158	186	202	200	188	183	171	165	145	141	139	139	133	120	114	113	117	[104	112	107]	141	0
21				[112]	—	—	—	236	271	286	289	261	240	234	213	207	203	199	191	(183)	184	183	175	188	186	170	200		0
22	✓	✓	✓	232	254	284	309	289	289	281	232	175	151	142	141	141	(144)	144	139	142	136	145	161	155	148	158	128	188	0
23	✓	✓	✓	129	204	260	248	216	202	[161	110	54	44	58	72	96	122]	129	128	117	114	119	130	139	145	142	132	136	0
24	✓			148	158	149	155	}109	173	174	116}	174	173	184	168	158	119	114	} 41	175	112	146	119	149}	186	174	167	148	1
25	✓			181	173	}102	84	75	167	59	102	145	126}	133	155	171	168	158	168	146	122	130	161	165	173	175	196	143	2
26				202	231	261	316	289	286	—	—	231	187	184	191	187	177	175	170	171	} 114	191	155	77	133	155	202}		2
27				} 228}	190	186	193	199	} 204	116	168	75	148	175	74	55	160}	—	—	—	—	} 104	149}	170	149	160	165		2
28	✓	✓		180	197	216	244	246	248	261	276	260	251	236	215	200	187	173	173	177	186	184	} 184	100}	168	168	154	204	0
29				186	181	216	231	229	} 142	97}	—	—	—	186	175	164	155	160	160	161	170	171	} 154	97}	157	162	175		2
30	✓	✓		215	238	255	246	[132	128	113	116]	126	130	135	133	(130	130)	130	119	129	129	130	130	133	145	157	157	149	0
31				145	142	155	160	186	203	191	160	160	165	(162)	—	—	—	—	—	—	—	—	—	—	—	—	130		0
MEANS * 21 DAYS				142	157	171	184	185	205	206	197	183	172	163	153	149	143	137	130	132	126	122	117	120	131	129	127	153	
MEANS † 17 DAYS				142	161	184	200	199	213	220	210	187	175	163	152	146	142	136	132	128	127	121	114	115	125	125	121	156	
MEANS ‡ 7 DAYS				167	200	239	260	263	275	273	239	196	178	166	156	149	148	142	140	136	133	132	134	136	149	153	150	180	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION } {=DISTURBED BY BAD WEATHER

TABLE 388

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1931

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[88	83	78	81	100	144]	169	168	170	167	159	147	140	133	131	126	(111)	[100	85	76	84	88	89	81]	117	0
2	✓	✓	✓	[82	76	82	104	138]	190	205	212	220	210	205	163	148	145	133	132	126	118	[92	83	71	77	76	81]	132	0
3	✓	✓	✓	[96	111]	133	187	233	279	312	305	246	189	156	136	133	111	112	110	109	101	112	120	121	136	148	168	161	0
4	✓	✓	✓	197	224	239	259	265	265	299	236	174	152	121	124	123	123	117	120	115	110	100	107	116	137	155	152	168	0
5	✓	✓		188	207	194	194	189	179	168	142	121	120	120	120	116	109	107	106	98	96	84	[19	24	32	40	36]	117	0
6	✓	✓		[43	42	42	43	58	63	96]	185	191	166	146	129	121	113	109	109	99	94	74	[43	50	40	39	37]	89	0
7				[32	105]	111	117	132	143	173	197	210	210	197	155	133	122	121	111	107	105	[42	60	83	68	55	43]		0
8	✓	✓		[30	32	33	42	72	131]	224	220	179	177	136	113	109	96	(96)	84	88	99	[33	84	109	98	71	56]	100	0
9	✓	✓		[46	46	42	45	69	69	84]	109	144	148	142	133	132	113	109	98	84	87	84	[35	29	43	43	45]	82	0
10	✓	✓		[43	46	109]	155	174	170	178	202	213	190	166	[109]	112	99	[83	77	58	56	56	46	59	(60	62)	63]	108	0
11	✓	✓		[49	46	46	71	74	71]	93	84	85	94	101	111	111	116	107	98	111	107	106	95	104	[94	88	81]	89	0
12	✓			[82	81	77	76	126]	151	147	146	153	157	157	164	158	138	143	132	121	117	112	109	106	112	[85	93]	123	0
13	✓	✓	✓	[100]	133	174	205	205	211	224	233	220	199	189	169	153	144	136	135	121	113	101	100	99	121	110	109	154	0
14	✓	✓	✓	142	212	269	299	302	324	274	167	153	186	187	172	133	111	95	96	98	100	98	[73]	(96	96	94	96)	161	0
15				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	[81	73	71	72	79]	≷ 96	74≶		1
16				≷ 106≶	—	—	—	—	—	—	—	111	105	96	96	99	101	96	96	109	109	99	85	84	85	79	84		1
17				109	109	133	136	143	144	132	118	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
18				—	—	—	—	—	—	—	—	96	109	116	113	117	120	113	109	96	85	[85	84	79	63	66	76]		0
19	✓	✓		[89	96	112	155	136	160]	177	132	120	111	106	106	109	106	100	104	96	98	93	84	89	93	[84	77]	110	0
20	✓	✓		[72	68	59	77]	109	154	182	177	177	(157)	136	136	(133)	128	118	117	112	100	96	99	96	[99	83	79]	115	0
21				[72	77	87	109]	180	190	236	241	226	201	199	(188)	182	170	157	157	(151)	145	142	112	124	121	110	134		0
22	✓	✓	✓	153	187	210	245	228	220	224	194	(146)	122	116	107	111	112	(111)	109	106	109	110	124	109	107	102	96	144	0
23	✓	✓	✓	96	148	217	213	179	164	[133	85	43	29	40	58	76	96]	105	111	94	89	95	95	96	96	89	81	105	0
24	✓			94	111	100	≷ 81	111	143	111	155≶	131	129	137	124	109	95	95	≷ 107	128	92	105≶	146	143	142	122	120	118	1
25	✓			124	117	≷ 126	90	95	129	110	84	111	84	99≶	123	142	142	131	135	120	99	100	109	107	112	107	135	114	2
26				134	146	176	234	211	199	213	202	186	155	154	158	154	146	143	133	≷ 92	74	135	55	129	122	142	152≶		2
27				≷ 166≶	136	124	133	133	≷ 133	150	134	109	99≶	109	≷ 99	201	48	120≶	124	120	≷ 105	78	84	111≶	98	105	109		2
28	✓	✓		118	123	151	173	178	186	188	229	238	223	207	179	165	157	(146)	135	134	133	129	≷ 122	58≶	117	107	101	154	0
29				132	120	143	165	162	≷ 123	209	146	157	154≶	144	105	121	122	131	129	131	131	136	≷ 117≶	—	—	—	122		2
30	✓	✓		153	155	185	172	[105	95	93	95]	109	106	111	112	109	(109)	111	104	98	98	96	85	85	85	98	106	111	0
31				96	95	106	109	122	152	144	126	132	141	133	128	126	[96	72	105]	106	105	98	88	85	81	81	79		0
MEANS * 21 DAYS				99	112	128	141	150	167	176	170	159	148	140	130	126	119	114	112	106	101	93	88	88	95	90	90	123	
MEANS † 17 DAYS				100	115	135	155	160	172	186	177	163	152	140	128	123	117	111	109	103	100	92	83	83	90	88	86	124	
MEANS ‡ 7 DAYS				124	156	189	216	221	236	239	205	172	155	145	133	125	120	116	116	110	106	101	100	101	110	111	112	147	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 389

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	116	123	135	131	127	67	91	75	70	65	62	67	67	64	69	71	74	(85)	89	95	97	(103	117)	[132]	92	0
2	✓	✓		[141	157	156	129	99]	76	56	47	43	43	51	60	57	58	61	65	63	(66)	76	89	92	84	75	65	80	0
3	✓	✓	✓	56	53	57	42	50	75	62	57	71	70	64	63	57	62	68	69	75	74	66	69	82	47	56	70	63	0
4				75	71	—	—	—	—	[111	112]	97	90	87	85	92	89	106	[153	169	178	204	186	200	214	200	168]		0
5				[146]	—	—	—	—	—	—	[105	139	130	134	119	108	104	94	93	89	102	111	112	140	208	196	204]		0
6	✓	✓		[191	154	143	141	134	149	124]	74	51	53	57	59	64	62	65	64	65	69	83	79	[125	88]	66	60	92	0
7	✓	✓	✓	55	50	50	41	50	50	51	70	64	64	65	65	66	70	74	83	80	80	83	74	87	103	94	92	69	0
8				98	99	97	88	101	N 79	56	82	82	88	71	53	53	—	—	—	—	—	[140	141	115	99	107	112]		1
9	✓			[111	125	167	178	113]	61	48	48	48	53	47	55	58	69	64	65	69	85	85	89	88	82	91	88	83	0
10	✓			92	94	93	[105	130	163	148]	99	74	74	70	63	68	77	87	101	101	[117	154	157	126]	88	89	98	103	0
11				92	91	—	—	—	—	99	86	69	73	66	81	79	79	95	[134	150	135	143	152]	—	—	—	—		0
12				—	—	—	—	—	—	—	—	62	61	56	59	61	70	83	88	83	83	90	97	[163	234	270	331]		0
13	✓	✓		[321	307	232	163	103]	68	51	51	62	66	73	75	71	71	79	81	82	78	88	[198	191	167	172	150]	125	0
14	✓	✓		[163	140	149	138	107	126	177	221	199	171	157	131	120	120	123	122	110	116	130	178	149	135	129	129]	143	0
15	✓	✓		[135	134	130]	[85	56	47	55	48]	79	78	86	93	93	92	86	85	[96	128	147	162	134	145	157	172]	105	0
16				[153	158	138	158	130	66]	45	41	37	38	39	35	41	46	N 46	49	57	62	61	74	Z	−65	N 28	71		1
17	✓	✓		N 42	52	71	61	48	61	65	75	75	66	60	57	57	63	69	71	84	112	[127	139	146	157	141	136]	85	1
18	✓	✓		[120	113]	86	96	97	N 35	N 38	56	126	146	136	128	134	128	112	98	95	106	[120	184	247	292	278	240]	134	1
19				Z+	N120	[181	186	176	183	156	130]	106	87	79	73	74	77	79	68	66	76	[106	123	146	134	139	142]		1
20				[141	121	116	97]	57	59	57	43	37	36	40	N 36	40	Z+	40	47	N 34	46	82	93	93	139	117	97		1
21	✓	✓		88	88	77	[102	130	120	117	130	124	129	101]	88	85	84	81	84	92	[113	170	180	186	179	163]	125	118	0
22	✓	✓	✓	120	115	101	84	78	66	67	74	60	60	57	57	61	61	63	67	61	66	74	75	71	71	60	43	71	0
23	✓	✓	✓	57	64	87	98	84	73	77	84	88	83	83	84	88	89	87	90	116	104	106	92	102	118	103	69	89	0
24	✓	✓	✓	70	74	76	66	65	49	77	83	79	72	79	82	80	[101	107	104	112	108	112	116]	115	110	113	98	90	0
25	✓	✓		102	112	96	93	89	N 55	55	55	54	66	69	72	79	88	93	88	94	89	103	[222	299	274	219	209]	116	1
26	✓	✓		[204	191	151	120]	122	121	146	N 53	71	77	102	79	80	85	84	88	94	103	111	110	[134	162	149	144]	116	1
27	✓	✓		[145	140	153	163	169	130]	76	66	62	61	71	74	69	72	79	80	85	92	[140	171	159	193	226	241]	122	0
28				[234	227	189	107]	96	185	N 18	51	58	55	50	51	50	Z	N 75	N 55	N 65	N 41	Z+	Z	Z	Z	88	Z		2
29			✓	Z	Z	Z	Z	Z	Z	Z	Z	71	73	65	70	69	81	74	71	71	76	74	[92	102	106	124	112]		2
30				[116	133	102]	90	62	47	42	47	53	51	55	60	70	67	67	79	78	73	75	65	Z	83	69	86		1
31	✓			85	69	70	65	56	48	48	46	45	51	60	64	71	70	78	73	[119	126	98	85	102	130	132	145]	81	0
MEANS * 20 DAYS				121	118	114	105	95	83	81	76	77	77	78	76	76	79	81	82	88	96	108	128	137	136	132	125	99	
MEANS † 17 DAYS				125	122	115	103	95	82	81	78	81	81	81	78	78	81	82	83	87	93	107	131	142	143	136	128	101	
MEANS ‡ 7 DAYS				84	87	87	79	74	64	67	70	69	66	66	68	70	73	76	80	83	83	88	90	95	99	98	87	79	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 390

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.4	24.2	50	32.2	12.2	T	12.7	SW	1	SSE	11	S	8	S	11		0	Ci; CiSt	0- 1	Thin haze over part of sky
2	739.4	30.0	33	38.9	16.9		11.5	SSW	5	SE	9	SE	6	SSE	5	Cu	1- 6	Cu; CuNb	4- 6	Sheet lightning in SE in late pm
3	737.6	35.6	22	41.1	21.5		10.9	SE	2	E	12	ENE	7	NNW	2	ACu; Cu	1- 6	ASt; Cu; StCu; Nb	4- 6	Lightning in SE in late pm
4	735.2	29.4	52	37.1	20.5		11.8	NNW	2	NNW	3	W	10	WSW	4	ACu; St	1- 6	ACu; Cu	4- 6	Somewhat smoky throughout
5	736.8	25.9	53	35.9	18.2		12.0	SW	2	SW	6	SSW	3	SSW	6	CiCu; ACu	1- 3	CiCu; ACu	4- 6	Smoky
6	736.8	32.2	25	41.3	17.9		7.9	SSW	2	SE	7	E	3	SSW	2	Ci; CiCu; ASt; Cu	4- 7	Ci; CiCu; ASt; Cu	4- 6	Smoky throughout
7	734.6	30.8	49	32.7	22.1		12.1	..	0	NW	7	WNW	14	WNW	5	CiCu; ACu; FrCu	1- 6	CiCu; FrCu; Cu; Nb	6- 8	
8	737.4	23.7	77	30.3	19.2	0.02	3.6	WNW	1	..	0	SSW	7	SW	11	Cu; CuNb; Nb	7- 9	Cu	4- 6	Rain in early am
9	739.9	26.2	34	33.9	16.0		12.6	SSW	7	SSE	13	SSE	10	SSW	10	ACu; Cu	1- 3	ACu; Cu	4- 6	
10	738.8	26.6	47	34.4	16.0		12.7	SSW	2	S	4	SSW	10	S	10	ASt; FrCu	1- 3	FrCu	0- 1	Thin haze over part of sky
11	739.5	23.1	69	28.3	16.2		11.6	SSE	5	SSE	10	SSW	12	S	8	Cu	8- 0		0	
12	740.7	21.5	51	31.3	12.7		12.5	S	4	ESE	15	ESE	7	SSE	7		0		0	Smoke haze noted at 9h
13	737.0	30.4	29	39.3	15.6		11.8	S	3	ENE	9	NNE	5	S	9	FrCu	1- 3	FrCu; Cu	4- 6	Smoky after 18h5; cloudless at night but smoky
14	735.7	26.8	56	30.6	19.0		12.0	S	4	SSW	6	SSW	15	S	7	ACu; CuNb	0- 1	CuNb	0- 1	Smoke haze throughout
15	740.7	24.4	54	33.9	15.1		12.4	S	3	ESE	9	SSE	6	S	9		0		0	Dew early; smoky
16	739.6	28.5	41	39.9	16.9		12.2	S	3	E	9	SSW	5	ESE	6	Cu	1- 6	Cu; CuNb; Nb	7-10	Thunder and lightning in evening; rain after 21h5
17	737.6	31.1	53	35.1	24.4	0.02	3.0	NE	1	NNE	8	NW	4	S	6	Ci; ACu; Cu; Nb	6- 8	ACu; Cu; Nb	7- 8	Smoky in evening
18	738.4	22.9	74	26.5	20.7		2.8	SSE	2	S	8	SSE	11	S	8	Ci; ASt; Cu; CuNb	9-10	ASt; Cu; CuNb	9-10	Much smoke after 8h; lightning at 21h; clearing at night
19	738.8	24.8	63	37.3	16.8	T	7.9	S	3	SE	6	ESE	5	S	7	CiSt; ASt; ACu	9- 6	CiSt; ASt;StCu;CuNb	7- 8	Few drops rain in pm; smoke haze present
20	735.9	28.6	42	34.8	22.1	T	0.1	S	1	..	0	SW	6	S	7	CiSt; ACu; ASt; StCu	7-10	CiSt; ASt; StCu; Nb	7-10	Smoky; lightning in evening in N
21	737.7	24.2	55	33.9	18.6		7.9	..	0	S	9	SSE	7	SSE	8	CiSt; CiCu; ASt; ACu	7- 9	CiSt; CiCu; ASt	7- 8	Smoky
22	739.4	25.0	49	36.9	19.8		8.2	ESE	13	E	13	NE	4	ESE	3	CiSt; CiCu; ASt; ACu	6- 8	CiSt; CiCu; ASt;StCu	7- 8	Smoky; lightning in evening in N
23	736.2	33.2	35	41.4	20.1		12.0	SW	1	..	0	NNW	4	SW	3	CiCu; ASt; FrCu	1- 3	CiCu	1- 3	Smoky
24	735.0	27.5	62	34.9	19.8		11.2	..	0	WNW	3	W	8	W	7	Ci; ASt; ACu	1- 6	CiCu; ACu; FrCu	6- 8	Smoky; lightning in W in early pm
25	737.1	24.5	72	32.3	20.1		9.8	WNW	7	NNW	5	W	12	SSW	6	FrCu; Cu	6- 9	FrCu; Cu	7- 8	
26	738.0	23.3	78	31.6	20.5		7.6	SSW	4	SSW	4	SW	7	SSW	8	FrCu; Cu	10- 3	Cu	3- 1	
27	736.8	25.3	49	35.0	16.2		12.2	S	5	SE	11	SE	5	S	10	ASt; ACu; Cu	1- 6	CiCu; FrCu; StCu	6- 8	Smoky in late pm
28	736.7	26.7	48	35.3	20.7		2.7	SSE	3	ESE	10	ENE	9	NNE	9	CiSt; ACu; StCu	6- 8	FrCu; CuNb; NbSt	7- 8	Thunder and lightning in pm and evening
29	738.3	25.0	70	34.5	20.2	0.32	9.5	NE	6	NE	7	NE	2	S	5	Ci; FrCu; CuNb; Nb	7- 6	ACu; Cu	6- 4	Rain in early am; cloudless in evening; fire in NW
30	737.9	20.3	41	37.8	20.5		10.2	SSE	1	E	4	E	3	N	13	Ci; ACu; Cu	1- 6	FrCu; CuNb; Nb	7- 8	Thundershower in late pm; fire in NW in late pm
31	735.0	33.3	33	40.9	22.5	T	9.3	SE	2	ESE	6	WNW	2	S	4	CiSt; CiCu; ACu; Cu	1- 3	CiSt; CiCu; ACu; Cu	1- 3	
SUM						0.36														
MEAN	737.7	27.3	50	35.1	18.6		9.5		3.1		7.2		7.0		7.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 391

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	132	132	133	135	145	148	160	184	188	188	184	170	144	130	120	119	114	113	104	104	120	117	102	[99]	137	0
2	✓	✓		[96	97	102	122	154]	180	220	246	(244)	231	202	161	145	133	130	125	125	120	120	129	145	160	187	231	159	0
3	✓	✓		260	274	303	334	318	231	244	200	142	122	120	130	130	133	132	129	126	129	136	119	122	160	184	188	182	0
4	✓			190	170	[130	106	102	102	102	112]	129	142	148	157	158	145	117	[72	61	58	54	64	77	75	75	78]	109	0
5				[72]	—	—	—	—	—	—	—	—	—	[72	81	87	86	87	102	112	90	87	102	87	58	67	70]		0
6	✓	✓		[74	87	99	99	97	90	116]	184	215	186	170	173	157	135	129	135	133	132	129	136	[86	128]	173	191	136	0
7	✓	✓	✓	202	213	219	231	255	248	207	135	130	128	129	129	130	132	144	145	145	145	145	145	155	130	130	130	163	0
8				132	130	130	130	106	104	112	87	72	90	129	145	144	141	139	136	130	133	[70	74	87	104	100	100]		1
9				[88	78	58	68	90]	160	190	188	199	178	171	160	151	145	128	104	102	88	77	84	110	120	112	116		0
10				110	104	103	[97	84]	—	—	—	132	133	142	148	133	119	102	104	102	[97	54	61	104]	139	145	145		0
11	✓			145	148	148	145	132	130	128	133	142	136	142	141	136	129	[113	57	35	64	75	86	90]	113	119	116	117	0
12	✓			117	119	[102	86	78	102	145]	161	168	170	177	174	171	(165)	160	162	164	160	155	146	[113	77	71	67]	134	0
13	✓	✓		[68	71	86	116	191]	264	360	360	270	219	200	161	160	145	138	114	113	128	113	[44	45	64	62	70]	148	0
14	✓	✓		[77	102	100	113	114	88	49	30	38	44	49	78	97	102	112	117	130	125	114	100	129	130	130	139]	96	0
15	✓	✓		[142	135	135	135	120	114	129	114	96	83	72	72	81	87	87	94	99	62	48	44	81	86	86	81]	95	0
16	✓			[80	83	77	78	100	174]	206	213	219	216	202	186	178	161	148	149	151	160	154	139≷	33	145	219≷	200	153	1
17	✓	✓		215	244	199	218	209	196	181	158	151	161	165	170	145	133	139	139	130	[64	71	75	90	87	90	102]	147	1
18	✓	✓		[107	116]	142	133	136	135	154	133	[78	55	33	32	45	62	93]	103	104	100	[88	62	46	54	57	57]	89	1
19	✓			77≷	[88	84	88	97	84	96	116]	130	158	174	188	187	174	148	155	148	129	[99	86	87	87	97	97]	120	1
20	✓			[106	114	119	132]	155	173	203	251	297	277	261	231	241	244	203	183	183	171	144	133	155	157	154	168	186	1
21	✓	✓		175	183	197	[173	117	117	117	114	102	96	116]	133	135	144	152	149	145	[129	96	86	87	99	107]	138	129	0
22	✓	✓	✓	148	158	170	188	203	200	202	206	202	196	190	199	188	187	187	188	184	178	174	177	190	202	231	260	192	0
23	✓	✓	✓	270	271	240	[160	161	174	177	203]	171	168	173	161	168	171	167	148	129	142	142	151	145	157	171	203	176	0
24	✓	✓	✓	200	187	164	199	200	213	168	158	170	171	173	155	149	[110	90	99	116	104	103	106]	133	148	148	132	150	0
25	✓	✓		135	135	144	145	155	154	173	175	177	178	175	173	[162	130]	170	168	173	173	177	[72	45	45	57	64]	140	1
26	✓	✓		[58	72	96	102]	109	103	91	91	91	107	112	125	128	(126)	122	130	132	135	130	125	[126	88	94	102]	108	1
27	✓	✓		[99	102	90	83	86	116]	190	231	232	228	215	(206	189	172)	156	152	(147)	141	[108	78	94	80	66	69]	139	0
28	✓			[75	88	110	178]	195	224	≷222≷	252	252	256	260	228	196	≷164≷	184	176	177	178	≷166	147	124	176	190	204≷	184	2
29	✓			≷142	160	208	194	164	134	150	195≷	178	171	170	174	174	172	170	168	160	160	146	[138	129	150	120	116]	160	2
30	✓			[114	108	135]	171	249	308	318	332	309	279	264	240	214	195	189	180	184	182	182	189≷	147≷	159	194	183	209	1
31				190	210	210	240	262	274	282	280	288	268	216	201	180	177	165	166	[52	86	132	178	150	135	106	94]		0
MEANS * 26 DAYS				135	141	144	149	155	162	173	180	174	168	164	160	154	145	142	137	135	130	122	111	107	118	127	134	144	
MEANS † 17 DAYS				145	152	154	158	163	163	173	172	159	151	146	143	138	131	133	133	132	125	118	103	108	114	122	133	140	
MEANS ‡ 7 DAYS				189	192	195	203	219	217	211	203	187	179	176	169	160	151	147	143	142	141	133	136	145	152	156	167	171	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 392

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1932

DAY	*	†	‡	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	79	76	79	87	81	98	117	149	167	168	163	146	119	104	94	94	92	91	79	79	92	89	76	[64]	103	0
2	✓	✓		[63	58	63	79	104]	131	184	222	221	199	164	130	113	107	107	97	99	99	93	96	102	127	142	179	124	0
3	✓	✓		199	218	232	245	246	180	201	164	119	100	94	100	104	104	99	92	92	96	103	93	88	122	138	129	140	0
4	✓			138	117	[93	79	71	71	76	87]	104	104	114	127	124	114	84	[51	40	40	31	40	43	38	42	44]	78	0
5				[39	40	51	42	48	54	59	64	—	—	—	48	56	51	(67)	67	78	66	63	69	55	35	31	32]		0
6	✓	✓		[40	48	54	54	56	54	69]	138	175	153	138	143	123	100	94	96	93	89	83	89	[51	91]	131	150	96	0
7	✓	✓	✓	143	151	155	173	191	191	156	108	104	102	104	96	94	100	104	107	104	100	96	100	102	82	83	81	118	0
8				—	—	—	—	—	—	—	—	—	72	91	117	—	104	102	—	—	100	[47]	—	—	[77	67	64]		1
9				[63]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	84		0
10				79	78	71	[64	54]	—	—	—	—	104	109	115	100	92	78	79	76	[69	39	50	69]	103	103	94		0
11	✓			96	107	104	102	93	88	93	102	112	104	108	105	105	103	[83	42	27	43	50	56	56]	76	79	79	84	0
12	✓			87	83	[68	54	50	64	107]	125	133	133	143	153	143	(125)	120	124	125	127	115	103	[72	48	40	31]	99	0
13	✓	✓		[27	31	43	67	115]	179	285	280	220	176	143	120	117	104	92	78	77	84	78	[36	29	39	38	44]	104	0
14	✓	✓		[46	67	64	68	72	59	35	20	28	27	32	52	63	68	69	79	88	91	69	59	74	81	81	79]	61	0
15	✓	✓		[76	76	76	73	79	82	100	87	76	58	50	50	50	58	59	64	67	43	31	28	54	55	51	52]	62	0
16	✓			[50	42	52	42	58	115]	161	175	193	179	160	144	141	119	112	109	108	108	104	94	≷25	118	155≶	122	112	1
17	✓	✓		≷144≶	160	131	143	144	133	120	105	115	128	131	131	105	100	103	100	91	[42	44	48	54	55	56	58]	102	1
18	✓	✓		[64	76]	87	82	78	96	103	93	[52	39	27	28	25	42	60]	71	72	67	[58	40	27	27	28	38]	58	1
19	✓			≷40≶	[54	51	51	59	51	59	77]	96	119	130	149	143	138	(117)	107	109	91	[67	60	56	58	58	66]	84	1
20	✓			[66	72	71	81]	103	124	138	184	214	210	202	176	186	≷146≶	162	140	136	125	103	94	107	104	103	112	132	1
21	✓	✓		103	103	108	[115	83	82	81	79	69	67	82]	94	97	104	109	107	105	[92	63	55	54	54	64]	100	86	0
22	✓	✓	✓	104	114	127	141	155	154	151	157	156	155	151	158	150	140	134	137	138	137	136	129	127	140	153	190	143	0
23	✓	✓	✓	177	187	160	[109	99	117	114	117]	109	108	117	125	133	133	133	114	91	94	94	88	89	91	100	114	117	0
24	✓	✓	✓	129	127	105	127	129	133	119	107	128	127	124	117	107	[81	64	69	81	69	71	77]	83	99	94	92	102	0
25	✓	✓		91	89	96	99	103	108	127	131	136	140	140	140	[133	96]	140	140	138	133	127	[42	27	27	27	35]	103	1
26	✓	✓		[32	44	54	64]	69	67	55	69	63	67	71	83	81	(88 | 81)	89	94	92	91	81	[78	58	63	63]	71	1
27	✓	✓		[58	63	58	54	54	68]	136	188	198	199	175	(150)	142	134	117	112	107	99	[77	50	63	50	40	40]	101	0
28	✓			[40	44	54	124]	148	≷146	184≶	198	206	219	218	179	151	141	131	129	117	127	≷130	129	127	129	125	63≶	136	2
29	✓			≷104	124	96	163	129	108	44	130≶	129	125	131	134	134	129	137	124	115	112	105	[92	82	97	79	71]	112	2
30	✓		✓	[68	66	79]	107	155	211	246	271	254	238	219	199	177	161	147	134	134	131	131	127	≷115≶	117	134	119	156	1
31				129	142	140	157	179	188	212	230	247	234	183	163	147	147	131	129	[35	54	88	112	99	83	68	62]		0
MEANS * 26 DAYS				87	92	91	99	105	112	125	137	138	132	128	124	118	109	106	100	98	93	86	76	72	80	84	85	103	
MEANS † 17 DAYS				93	99	100	105	109	114	127	130	126	118	112	110	103	98	98	97	96	89	82	70	70	76	80	89	100	
MEANS ‡ 7 DAYS				128	134	134	141	151	155	158	153	148	143	139	134	126	118	111	107	106	103	96	94	97	104	104	113	125	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 393

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		116	112	114	[86	117	114	84	78]	73	70	65	72	73	82	83	64	⌈ 87	116	146	159	159	146	169	146]	106	0
2	✓	✓		123	114	100	103	96	85	74	69	65	61	65	72	76	92	90	95	⌈ 96	119	164	196	197	189	165	166]	111	0
3	✓	✓		⌈ 157	132	95]	90	78	75	72	78	73	76	76	80	86	97	90	⌈ 98	114	122	131	100	110	101	143	167]	102	0
4	✓	✓		⌈ 205]	86	100	106	100	86	75	78	67	69	76	76	75	79	85	83	89	95	⌈ 100	125	128	146	161]	104	100	0
5	✓	✓	✓	96	100	104	96	90	79	69	70	67	59	69	74	81	75	74	90	81	90	93	105	93	86	74	70	83	0
6	✓	✓	✓	74	80	90	70	67	61	59	58	64	69	82	80	75	78	78	72	73	82	85	77	65	84	96	91	75	0
7	✓	✓	✓	98	91	108	95	88	75	57	73	70	73	75	85	81	85	80	83	79	78	84	84	75	67	73	75	80	0
8	✓	✓	✓	80	98	93	74	63	54	55	61	64	63	68	65	72	72	76	74	85	80	82	78	76	61	49	44	70	0
9	✓	✓		54	69	⌈ 141	123	82]	52	41	41	52	49	50	55	74	69	65	69	⌈ 89	96	103	146	174	137	142	123]	87	0
10	✓	✓		⌈ 126	137	187	186	218	182	152]	73	50	50	48	53	55	47	54	64	⌈ 75	95	111	91]	70	56	59	62	96	0
11	✓	✓	✓	68	73	55	46	49	35	41	44	49	46	47	45	51	54	58	64	⌈ 64	101	154	218	204	228	216	141]	90	0
12	✓	✓	✓	82	85	59	69	76	64	58	51	45	44	45	46	49	50	52	59	52	74	⌈ 83	92	95	96	101	122]	69	0
13	✓	✓		⌈ 123	123	105	111	107	94	73	100	108	126	132	122	103	90	94	89	103	137	119	112	124	122	108	145]	111	0
14				⌈ 200	Z+	Z+	Z+	199	120	294	289	248	207	143	111]	85	84	73	79	⌈ 101	124	114	86	114	122	128	146]		0
15				—	—	—	—	—	—	—	—	⌈ 108	88	143	144	105]	91	83	82	93	101	⌈ 117	127	154	187	159	140]		0
16				104	⌈ 100	Z+	Z+	287	221	155]	90	81	96	97	99	88	92	90	99	87	82	⌈ 109	151	133	123]	111	109		0
17				110	111	113	⌈ 168]	—	—	—	—	129	119	127	129	123	112	111	105	111	119	132	—	—	⌈ 237	247	188]		0
18				⌈ 173	176	186	186	160	146	128]	≷ Z	Z	Z	Z	Z+	N 66	N 64≶	106	110	117	118	⌈ 131	141	150	150	154	159]		2
19				⌈ 151	160	178	163	150]	131	121	131	151	138	135	126	123	⌈ 128]	—	—	—	—	—	—	—	⌈ 192	205	184]		0
20				⌈ 191	287	337	355	343	299	228	105]	71	69	69	74	80	92	99	103	101	105	118	⌈ 136	139	321	Z+	Z+]		0
21	✓			⌈ 332	232	147	132]	131	104	87	78	75	74	74	80	86	90	91	101	120	109	123	132	147	145	128	128	123	0
22	✓	✓		142	163	151	142	137	123	109	105	101	101	100	95	100	111	106	120	118	117	⌈ 176	200	169	156]	128	136	129	0
23	✓	✓		⌈ 133	178	122]	97	83	76	70	80	94	81	86	82	97	101	96	111	⌈ 133	136	138	134	183	164	112]	124	113	0
24				128	109	81	73	61	45	41	55	60	59	66	69	85	104	101	109	⌈ 117	124	107	145	170	233	219	Z+]		0
25				⌈ Z+	211	139	237	287	257	168	123]	62	62	69	64	101	109	92	105	96	⌈ 123	234	Z+	Z+	311	Z+	297]		0
26				⌈ 225	171	138	N102	138	N 86	131	N119≶	⌈ 210	196	Z+	Z+	188	143	128	120	138	169	178	192	187	96	133	177]		1
27	✓	✓		⌈ 174	123]	85	82	74	59	56	52	52	53	58	58	61	64	⌈ 73	79	82]	83	87	95	115	⌈ 268	343	335]	109	0
28	✓	✓		⌈ 293	190	140]	108	84	67	64	64	58	57	60	63	59	64	74	80	90	⌈ 121	174	212	198	208	218	216]	123	0
29				⌈ 203]	—	—	—	—	—	—	⌈ 290	323	270	218	233	224	199	207	211	201	210	163	165	186	202	218	216]		0
30																													
31																													
MEANS * 18 DAYS				138	121	111	101	97	82	72	70	68	68	71	72	75	78	79	84	91	103	120	131	132	137	138	133	99	
MEANS † 17 DAYS				126	115	109	99	95	81	71	69	68	67	71	72	75	77	78	83	89	102	119	131	131	136	139	133	97	
MEANS ‡ 6 DAYS				83	88	85	75	72	61	56	60	60	60	64	67	69	68	69	74	74	83	90	88	79	75	75	77	73	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VAL

TABLE 394

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	734.9	27.6	64	37.9	20.5		11.1	SSW	3	SSE	1	S	3	S	7	ASt	1- 3	CiSt; CiCu	1- 3	Smoke in am and evening
2	735.8	25.2	59	35.6	19.3		12.1	ESE	8	ESE	10	SSE	6	S	9	ACu; ASt	1- 3		0	Smoke in am and evening
3	734.4	22.5	57	31.8	16.5		12.2	SE	7	SE	11	SSE	11	SSW	16		0		0	Smoke in am
4	738.0	17.2	47	25.3	13.8		11.8	SE	13	SE	19	SE	13	S	9		0		0	Smoke in am
5	744.1	16.5	55	25.9	10.5		11.7	ESE	11	E	19	ESE	14	SE	6	ASt	0- 1		0	Smoke in am
6	744.7	23.7	46	30.7	14.0		12.2	E	7	ENE	16	ENE	9	E	1	CiSt; ASt	1- 3		0	Smoke in am
7	744.0	22.3	36	33.4	17.0		12.2	ENE	3	NE	12	NE	3	ESE	3	Ci; ASt	1- 3	Ci	1- 3	Smoke in am
8	743.4	28.4	30	33.9	19.3		11.5	ENE	5	NE	10	E	5	SE	3	Ci; CiSt	1- 3	Ci; CiSt	4- 6	Smoke in am; cloudless at night
9	740.9	29.4	29	35.7	16.6		11.5	SSE	4	NE	7	SSE	4	S	6	Ci; CiSt; ASt	1- 6	Ci; CiSt	6- 1	Smoke in am
10	736.8	24.5	35	33.0	17.1		2.6	S	2	SSE	1	..	0	..	0	ACu; ASt; FrCu	10- 7	ASt; ACu	6- 4	Smoke in am
11	737.2	27.0	38	36.4	14.4		9.8	SE	5	E	12	NNE	2	SSW	5	Ci; CiSt; Cu	1- 6	Ci; FrCu; ASt	4- 6	Thin smoke-haze in am
12	736.4	24.5	53	33.1	20.0		7.0	ESE	10	ESE	7	S	7	SSW	4	CiCu; ACu; ASt; FrCu	7-10	CiCu; ACu; ASt; FrCu	7-10	Thin smoke-haze in am
13	737.8	25.4	56	32.4	16.1		11.2	..	0	WSW	4	WSW	6	SSW	6	ACu; ASt; FrCu	1- 3	ACu; FrCu	1- 3	Thin smoke-haze in am
14	738.6	23.5	58	33.9	14.4		11.0	..	0	WNW	1	NW	3	SW	2	ACu	0- 1	ACu	0- 1	Some smoke in am; heavy smoke after 16h5
15	739.9	22.6	73	35.3	12.9	T	10.2	..	0	SSW	2	WSW	7	SSW	6		0		0	Mist early; smoke-haze at 9h
16	741.8	25.0	45	33.5	14.2	T	11.7	..	0	S	2	SW	6	SSW	5		0		0	Heavy mist early; smoky throughout
17	742.5	25.0	56	35.9	16.0		11.6	S	2	ESE	7	SW	1	SSW	6	ACu	1- 3	CiCu	1- 3	Smoky in am; dew in early am
18	742.6	21.0	75	27.4	18.0	T	1.2	S	3	SSW	1	SSW	8	S	3	ASt; StCu; CuNb	9-10	ASt; StCu; CuNb	10	Smoky in am; few drops rain during day
19	743.1	20.1	56	29.6	12.8		11.8	SSE	4	SE	11	SE	7	SSW	7	CiCu; CiSt	1- 3	CiCu; CiSt	1- 3	Smoky in am; dew early in am
20	742.1	25.1	33	35.3	12.5		11.7	SSE	2	ESE	11	ESE	7	SSE	6	CiSt	1- 3	CiSt; ACu	1- 3	Smoky; dew in early am
21	742.2	27.3	35	35.6	19.6		7.3	ESE	3	ESE	13	ESE	15	ESE	9	CiSt; ACu; ASt; StCu	7- 8	CiSt; ACu; ASt; StCu	7- 8	Smoky; cloudless at night
22	743.9	24.6	42	35.0	18.5		9.2	E	11	E	14	E	14	ESE	6	CiSt; ACu; ASt; FrCu	4- 6	ACu; ASt; FrCu; StCu	7- 8	Smoky in am
23	742.5	29.5	25	36.8	22.0		11.4	ENE	6	NE	15	NE	5	ESE	2	Ci; CiSt; ASt	1- 3	Ci; CiSt; ASt	1- 3	Smoky in am; cloudless at night
24	741.7	30.4	18	38.5	18.4		10.9	..	0	NNE	9	SE	2	S	3	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Smoky
25	740.6	32.6	11	40.2	16.5		11.0	..	0	NNE	5	..	0	SSW	1	Ci; ASt	0- 1	Ci	0- 1	Smoky
26	741.7	27.3	49	38.5	15.9		8.1	S	3	SSE	4	S	2	S	9	Ci	0- 1	Ci	0- 1	Much smoke; dew in early am
27	743.4	25.6	43	36.2	19.6		7.9	SE	8	ESE	8	ESE	10	SSE	3	Ci; CiCu; CiSt; FrCu	7-10	Ci; CiCu; Cu; FrCu	7- 8	Somewhat smoky
28	740.9	26.1	48	37.2	20.5		4.1	SSE	3	ESE	5	SSE	3	S	5	ASt; ACu; StCu	7-10	ASt; ACu; StCu	7-10	Smoke all day, most dense in pm
29	739.3	27.9	51	37.4	15.8		11.1	S	3	S	4	SSW	8	SSW	6	Ci; CiSt; ASt	1- 3		0	Dew early; smoky, especially in am
30																				
31																				
SUM						0.0														
MEAN	740.5	25.2	46	34.2	16.6		9.9		4.3		8.3		6.2		5.3					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 395

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		120	123	116	122	[110	86	90	105]	132	141	154	132	136	135	135	146	[122	102	88	78	93	78	75	105]	114	0
2	✓	✓		136	162	164	164	162	180	184	182	168	170	176	171	153	(134)	129	141	[129	86	60	64	70	75	87	90]	135	0
3	✓	✓		[93	120	172]	180	180	198	200	198	189	177	178	168	160	165	176	[153	105	94	90	102	105	96	84	69]	144	0
4	✓	✓		[60]	165	171	160	160	165	180	166	166	154	150	141	134	120	116	108	99	98	[86	88	90	94	87]	90	127	0
5	✓	✓	✓	164	168	184	180	196	198	225	219	198	190	164	150	147	140	138	138	136	130	135	126	156	162	210	225	170	0
6	✓	✓	✓	246	255	270	303	334	364	354	315	270	242	214	201	192	190	170	164	122	144	120	118	154	165	159	189	219	0
7	✓	✓	✓	200	195	214	246	258	267	262	231	198	189	171	174	165	165	165	165	165	165	171	168	153	165	176	186	192	0
8	✓	✓	✓	214	204	207	237	267	280	267	249	200	178	164	148	148	147	148	147	146	140	140	126	135	176	189	195	186	0
9	✓	✓		183	165	[92	105	174]	238	300	304	240	206	200	180	150	(134)	128	120	[100	34	30	26	30	46	62	58]	138	0
10	✓	✓		[58	60	58	44	44	56	78]	138	177	196	206	170	153	132	117	105	[92	75	62	87]	120	148	135	132	110	0
11	✓	✓		111	129	165	189	234	267	264	255	224	210	190	178	177	165	160	159	[134	58	39	30	42	45	51	87]	148	0
12	✓	✓	✓	117	104	135	132	124	147	162	165	178	192	204	196	190	180	176	164	162	159	[116	106	108	94	76	75]	144	0
13	✓	✓		[63	72	70	69	70	87	90	90	64	57	48	56	69	63	68	66	52	56	72	99	111	105	94	92]	74	0
14				[88	45	45	45	56	57	56	45	50	58	70	80]	104	134	135	140	[93	45	63	100	93	94	86]	—		0
15				—	—	—	—	—	—	—	—	[90	87	56	50	80]	116	132	135	122	117	[80	87	76	62	90	108]		0
16	✓			118	[117	42	44	48	72	88]	171	153	132	120	123	140	(140	148)	141	141	150	[116	75	120	132]	153	168	119	0
17	✓			166	165	160	[120	88	80	87]	116	93	108	94	88	93	[9	104	120	134	120	118	114	147	[102	90	120]	114	0
18				[123	118	114	120	132	135	141]	≷124	20	44	124	135≶	129	128	134	130	134	132	136	140	146	147	162	—		2
19				—	—	—	—	—	—	—	—	105	93	100	111	94	[90	75	45	50	40	57	60	75	92	78	62]		0
20				[60	58	50	56	58	66	93	196]	—	—	—	238	208	204	195	182	153	164	150	[122	74	50	40	39]		0
21				[56	78	138	165]	194	198	224	243	—	—	—	—	—	—	—	—	—	—	—	—	140	152	174	183		0
22	✓	✓		170	165	171	190	210	210	224	240	242	238	238	238	212	189	174	147	124	144	[86	80	102	135]	162	195	179	0
23	✓	✓		[192	105	210]	240	250	255	260	236	166	178	170	165	176	(165)	154	164	[135	123	70	60	74	105	147]	177	166	0
24	✓			168	192	260	282	282	310	318	291	[88	51	30	20	26	30	30	30	18	32	20	18	26	42	48	72]	112	0
25	✓			[99	104	93	118	178	178	195	234]	208	225	195	178	120	105	116	117	117	[84	15	24	16	20	30	36]	117	0
26	✓			[39	46	56	48	50	56	48	38	26	20	16	27	30	36	40	27	15	18	21	18	30	30	26	24]	33	1
27	✓	✓		[30	70]	94	100	105	120	146	153	165	(152)	146	147	130	116	[102	94	86]	106	120	120	104	[51	36	45]	106	0
28	✓	✓		[51	90	116]	164	213	240	243	254	244	252	270	285	282	270	254	219	196	[124	78	75	64	69	76	76]	175	0
29	✓			[60	45	39	36	42	44	54	39	39	46	60	60	60	60	45	48	69	64	90	105	80	90	96	98]	61	0
30																													
31																													
MEANS * 23 DAYS				124	131	142	151	164	178	188	191	166	161	155	148	141	134	130	125	113	100	84	83	93	97	102	113	134	
MEANS † 17 DAYS				130	138	153	166	182	198	208	206	189	184	179	171	163	154	148	141	124	108	92	91	101	106	112	123	149	
MEANS ‡ 6 DAYS				175	176	196	214	236	254	256	239	211	198	187	173	166	159	152	147	137	136	124	122	138	152	158	167	178	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 396

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		79	81	77	72	[58	54	59	67]	93	(94	131)	97	100	99	94	104	[92	71	59	54	67	54	52	69]	78	0
2	✓	✓		92	104	120	117	118	125	141	153	151	147	144	141	122	99	(97)	97	[92	58	40	40	40	42	52	55]	99	0
3	✓	✓		[56	69	112]	120	125	134	143	153	153	141	140	133	125	124	133	[112	74	66	58	68	66	63	52	40]	102	0
4	✓	✓		[31]	117	117	104	104	114	128	125	131	118	109	105	96	82	74	76	71	67	[67	54	46	50	47]	107	89	0
5	✓	✓	✓	114	117	122	119	129	133	153	153	160	141	122	115	105	99	93	89	93	84	91	79	94	104	117	138	115	0
6	✓	✓	✓	153	157	175	203	234	260	255	227	204	183	162	144	142	133	115	109	81	91	76	77	91	84	84	109	148	0
7	✓	✓	✓	115	108	118	164	168	174	176	164	146	127	125	118	114	107	107	108	114	108	114	104	96	100	107	113	125	0
8	✓	✓	✓	134	135	136	137	169	186	180	176	144	135	125	104	102	103	102	104	102	92	97	83	73	102	119	131	124	0
9	✓	✓		125	114	[56	62	82]	153	210	213	179	156	150	133	104	94	88	79	[68	27	24	23	16	27	25	24]	93	0
10	✓	✓		[38	36	28	27	24	27	54]	91	119	141	143	128	107	94	82	71	[59	50	42	58]	79	92	93	91	74	0
11	✓	✓	✓	83	82	119	143	187	199	211	210	176	166	143	138	128	118	108	105	[93	42	25	23	25	25	27	43]	109	0
12	✓	✓	✓	79	68	102	93	88	105	122	129	137	141	142	140	131	130	129	119	114	113	[78	69	67	62	52	52]	103	0
13	✓	✓		[42	44	40	40	43	56	64	64	48	40	29	31	43	40	40	42	32	35	48	66	68	58	52	44]	46	0
14				[32	21	19	15	36	38	25	25	31	27	40	54]	74	91	100	104	[66	29	44	68	52	54	54	40]		0
15				[39	47	67	83	104	52	55	54	81	58	31	29	62]	93	105	112	102	91	[77	64	51	38	58	64]		0
16	✓			67	[79	19	23	27	36	59]	119	129	108	87	98	108	119	(115	122)	119	125	[92	54	78	92]	114	120	88	0
17	✓			125	109	100	[69	54	54	44]	83	78	92	74	63	62	67	69	87	97	92	87	72	96	[64	54	77]	78	0
18				[78	78	71	66	77	. 79	83]	≷ 96	153	119	87	96≶	100	103	104	103	94	91	[83	84	79	79	81	81]		2
19				[68	55	68	76	71]	83	92	91	79	72	74	82	92	[58	46	27	29	27	36	40	44	56	48	40]		0
20				[36	28	27	27	31	40	55	146]	——	——	——	203	173	166	161	144	117	127	114	[81	40	28	24	19]		0
21				[27	40	79	113]	125	154	181	209	——	——	——	——	——	——	——	——	——	——	——	——	——	115	133	143		0
22	✓	✓		130	122	131	153	164	167	180	198	199	199	195	198	180	133	143	120	102	114	[54	54	66	88]	114	142	139	0
23	✓	✓		[141	72	161]	183	180	201	206	194	131	151	143	138	142	(141	122)	124	[96	81	43	40	36	52	92]	105	124	0
24	✓			112	117	177	201	222	242	251	219	[104	56	40	31	27	27	31	28	27	32	23	16	19	27	51	82]	90	0
25	✓			[96	102	92	104	144	144	161	179]	179	207	180	162	92	78	79	78	84	[64	13	15	12	12	16	23]	96	0
26	✓			[27	34	40	39	36	40	36	27	23	15	12	13	15	25	27	19	17	19	17	15	19	25	23	19]	24	1
27	✓	✓		[19	52]	71	79	87	98	117	129	141	133	120	128	114	94	[83	79	68]	82	84	81	78	[36	27	25]	84	0
28	✓	✓		[28	56	81]	113	173	199	203	204	210	215	232	237	237	222	202	177	156	[100	58	50	44	50	51	43]	139	0
29	✓			[36	27	25	25	24	24	25	27	29	32	40	40	40	39	29	39	52	43	58	67	58	54	50	55]	39	0
30																													
31																													
MEANS * 23 DAYS				84	87	96	104	115	127	138	144	133	128	121	115	106	99	94	91	83	72	59	55	58	59	64	74	96	
MEANS † 17 DAYS				86	90	104	113	125	140	153	156	148	143	138	131	123	112	107	101	89	75	62	60	62	64	68	78	106	
MEANS ‡ 6 DAYS				113	111	129	143	162	176	183	176	161	145	136	125	117	111	105	100	94	90	83	78	83	91	95	106	121	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 397

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈181	195	171	134	198⌋	≷ Z ≶	⌈209	181	145	140	109⌋	87	88	⌈139	144	121	157	142	144	157	174	165⌋	—.	—		1
2	✓			⌈227	302	231	245	187	164	153	167	115	153	153	196	191	182	190	169	137	136	154	172	277	330	315	284⌋	201	0
3				⌈293	342	Z+	322	238	247	226	157⌋	112	124	159	142	144	130	⌈159	178	201	200	192	219	284	263	217	204⌋		0
4	✓	✓		⌈188	198	181	144	136	192	180	185	159⌋	123	105	105	107	103	100	107	110	⌈133	125	181	251	168	204	170⌋	152	0
5	✓	✓	✓	135	105	113	118	98	74	83	107	115	99	112	107	108	102	107	116	116	119	105	110	111	118	128	116	109	0
6	✓	✓		135	145	127	112	153	139	127	144	172	153	130	127	119	⌈153	156	140	176	178	208	178	163	152	196	214⌋	154	0
7				⌈255	307	345	337	247	153⌋	102	95	90	97	97	98	110	111	112	⌈137	146	177	200	149	Z+	Z+	Z+	Z+ ⌋		0
8	✓	✓		⌈345	330	276	172	171⌋	102	85	80	79	69	69	71	94	90	90	97	105	⌈110	135	142	136	155	186	205⌋	141	0
9	✓	✓		⌈196⌋	121	101	97	88	⌈94	113	92⌋	68	83	92	89	90	89	99	103	106	120	⌈162	145	159	160	164	167⌋	117	0
10	✓	✓		⌈155	135⌋	105	88	84	78	71	79	77	81	92	84	97	94	86	89	⌈103	116	96	200	232	299	329	282⌋	131	0
11	✓	✓		⌈223	260	297	342	274	294	273	213	97⌋	74	69	84	83	86	97	102	⌈112	129	159	186	291	330	297	260⌋	193	0
12				⌈275	284	286	Z+	Z+	Z+	329	309	316	307	255	228	165	138	127	140	200	207	252	292	306	264	205	181⌋		0
13				⌈185	235	222	238	329	Z+	Z+	245	104⌋	70	73	77	91	92	100	98	96	⌈111	145	172	202	200	193	194⌋		0
14	✓	✓		⌈223	217	180	191	245	268	289	299	266	190	153	139	128	129	131	140	144	172	226	288	228	167	200	250⌋	203	0
15	✓	✓		⌈ −76	N 38	N 31	129⌋	107	93	88	88	61	69	75	82	93	97	102	105	106	125	99	96	104	123	106	103	85	1
16	✓	✓	✓	111	102	90	93	92	79	78	74	73	57	70	70	75	70	72	⌈188	106	106	78	78	83	83	140	272⌋	98	0
17				⌈200	149	147	172	312	Z+	343	348	319	259	239	218	209	208	213	209	204	207	254	286	291	263	240	209⌋		0
18				⌈186	236	272	267	264	Z	245	254	250	243	209	180	157	149	153	143	143	125	123	88⌋	73	78	79	70		0
19	✓	✓		⌈ 84	97	134	180	208	185	163	111⌋	90	74	73	69	79	92	96	105	107	107	111	116	130	126	117	95	115	0
20	✓	✓	✓	87	77	80	81	74	67	71	66	60	56	54	55	64	69	79	72	79	68	64	71	73	65	61	62	69	0
21				58	56	46	45	39	32	28	28	34	45	55	60	61	64	76	66	⌈ 97	120	212	286	—	—	181	189⌋		0
22	✓	✓		⌈171	153	137	203	194	245	284	232	180	137⌋	116	112	108	⌈129	143	152	161	148	195	166	176	219	230	188⌋	174	0
23	✓	✓		⌈180	175	259	274	261	241	223	166⌋	112	97	120	116	111	100	102	114	125	142	111	⌈203	238	240	237	300⌋	177	0
24	✓			⌈323	325	319	305	329	269	287	193	97⌋	68	60	56	69	69	74	74	86	79	⌈187	175	185	269	320	335⌋	190	0
25	✓	✓		⌈298	277	298	264	264	293	273	264	211	140⌋	104	92	101	⌈112	123	127	131	129	115	121	94	144⌋	102	97	174	0
26	✓	✓	✓	97	133	116	116	127	112	84	65	45	45	55	62	73	74	78	74	80	73	77	73	69	89	84	74	82	0
27				69	74	74	66	39	32	≷ −61	Z−	Z−	−210	−116	Z−	−138	Z−	−149	−27	−32	−226	−107	−152	Z	Z	−158	−171≶		2
28				≷−287	−80≶	108	97	80	69	69	65	64	≷ Z	Z	Z	Z	Z	Z	44≶	45	45	52	62≶	74	65	≷N 37	66≶		2
29	✓	✓		80	79	74	≷N 64≶	74	71	91	119	≷ 82	N 64	57	N 45	N 38≶	67	73	88	92	90	97	100	102	107	106	98	82	1
30	✓	✓	✓	80	87	105	⌈139	187⌋	147	121	135	122	89	79	80	75	79	89	97	92	92	94	94	⌈102	121	144	145⌋	108	0
31	✓	✓	✓	⌈172	152	116⌋	102	88	76	73	75	80	83	81	82	94	93	103	108	105	111	107	101	114	101	99	88	100	0
MEANS * 21 DAYS				164	167	160	165	164	156	153	141	112	95	91	92	95	99	104	113	113	118	129	143	158	170	179	181	136	
MEANS † 19 DAYS				152	152	148	153	154	150	146	137	113	94	90	88	91	96	101	112	113	119	124	139	150	156	165	168	130	
MEANS ‡ 6 DAYS				114	109	103	108	111	95	87	89	80	74	76	78	84	86	93	95	96	98	91	91	96	103	104	98	94	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 398

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.7	23.5	65	30.4	17.2	0.01	2.3	S	6	W	1	SSW	6	S	5	CiCu; ASt; ACu; StCu	7-10	CiCu; ASt; ACu; StCu	7-10	Few drops rain in early hours
2	741.6	22.5	64	31.1	18.4		1.2	..	0	..	0	SE	1	SSE	3	ACu; ASt; StCu	7-10	ACu; ASt; StCu	7-10	
3	738.8	28.5	41	33.4	17.4		11.1	..	0	..	0	SSW	11	S	1	Ci; CiSt	1- 4	Ci; CiSt	1- 3	
4	738.9	24.1	49	33.3	13.7		11.5	S	1	ESE	4	S	4	S	5	CiSt	1- 3	CiSt	1- 3	
5	739.2	23.3	56	29.3	14.5		11.3	..	0	S	6	SW	7	SSW	5	ACu; ASt	1- 3	CiCu; ASt; Cu	4- 8	Dew early
6	741.8	22.0	48	26.7	13.1		11.1	S	1	SE	7	SSE	8	S	9	Cu; Ci	1- 3	Ci; Cu	0- 1	Dew early
7	743.1	21.8	45	29.6	10.1		11.3	S	3	ESE	9	ESE	7	SSE	5		0		0	Thin haze in part of sky; fires in S and E in pa
8	742.8	23.9	31	32.3	13.7		11.3	S	4	ESE	6	ESE	12	SE	4	Ci	1- 3	Ci	1- 3	
9	742.6	25.0	33	32.8	14.8		10.6	ESE	6	ENE	8	ENE	7	SE	5	CiSt	10- 6	CiSt	6- 1	Somewhat smoky in evening
10	741.6	27.0	27	33.1	17.1		10.9	ESE	2	NNE	8	ESE	4	S	9	ASt	1- 3	ASt	1- 3	Smoky in evening
11	740.3	27.0	26	35.2	13.1		10.7	SSE	1	NE	1	SE	1	S	3		0		0	Smoky in early am and in pm
12	739.9	23.7	61	33.3	14.6		10.3	S	1	S	4	SSW	5	S	5		0		0	Dew early; much smoke all day
13	740.4	23.1	55	33.9	12.1		10.5	S	2	SE	3	S	1	S	5		0		0	Dew early; smoky all day
14	741.0	23.1	55	31.6	14.9	T	10.9	S	3	S	7	SSE	7	SSE	7		0		0	Dew early; smoky all day
15	744.6	19.4	54	30.6	13.3		11.0	ESE	22	E	17	ENE	11	ESE	5		0		0	
16	740.1	26.4	24	37.6	18.7		7.8	NE	7	NNE	12	NNW	8	S	6	ASt	1- 3	ASt	4- 6	Smoky
17	741.2	21.3	55	31.1	14.0		10.2	S	2	S	8	SSE	4	S	6		0		0	Dew early; heavy smoke all day
18	741.5	20.4	64	28.2	15.1		10.1	S	5	SSW	10	S	9	S	10	ACu	1- 6		0	Smoky in am
19	745.0	19.5	55	27.3	12.5		10.5	SSE	7	ESE	16	ESE	17	ESE	11	Ci; ACu; Cu	3- 6		C	
20	744.1	21.5	37	31.8	13.8		10.7	ESE	9	ESE	12	NE	8	ESE	4	CiSt	0- 1		0	Small fire in SE
21	739.5	25.9	31	35.4	14.5		8.8	SE	3	..	0	SW	9	S	7	CiSt; CiCu	10- 6	CiSt; CiCu; Cu	6- 1	Much smoke after 17h
22	742.4	18.0	57	23.1	12.7		6.8	S	7	SE	11	S	10	S	8	Ci; ASt; Cu; StCu	10- 7	Ci; ASt; Cu; StCu	7-10	Much smoke after 17h
23	744.8	16.0	49	23.4	8.2		10.5	SSE	4	ESE	14	ESE	10	SSE	8	CiSt	1- 3	CiSt	1- 3	Much smoke from mid-afternoon
24	742.2	18.3	42	28.8	6.6		10.7	SSE	4	ESE	6	WSW	1	S	8	CiSt	1- 3	CiSt; Ci	1- 6	Dew early
25	740.4	18.3	54	26.0	10.3		7.6	SSE	4	SE	8	SSE	8	S	7	Ci; CiCu; CiSt; Cu	6- 8	Cu; StCu	7- 8	
26	744.1	17.1	58	27.2	10.5		10.5	SSE	3	E	18	ENE	13	E	5	Ci; CiSt	6- 8	CiSt; ASt	7- 8	Fire in E
27	742.0	15.4	93	20.1	14.3	0.44	0.0	ENE	4	ENE	6	NE	8	NE	6	Nb	10	Nb	10	Steady rain after 6h5 through day
28	735.2	20.0	66	22.3	14.7	1.73	0.9	NNE	10	N	6	N	1	SW	3	CuNb; Nb	10	CuNb; Nb	10	Rain 0h-2h and 10h-16h; thunder in am
29	737.1	19.0	91	23.3	17.5	1.85	3.0	WNW	2	SW	2	SW	6	SSW	4	Cu; Nb	10- 7	Cu; Nb	6- 1	
30	740.5	17.6	81	23.8	12.3	0.02	7.9	SW	1	SSE	7	SSE	10	S	7	ASt; Cu; Nb	6- 8	Cu	4- 6	
31	745.2	15.5	67	21.1	11.0		10.4	SE	6	E	10	ESE	14	SE	4	Cu; StCu	6- 7	ACu	4- 6	
SUM						4.05														
MEAN	741.4	21.6	53	29.3	13.7		8.8		4.2		7.3		7.4		5.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 399

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈ 83	68	68	71	96⌋	≷ 70 ≶	⌈ 86	88	103	97	97⌋	128	129	(116)	⌈ 57	48	75	74	72	80⌋	—	—	—	—		1
2				—	—	—	—	—	—	—	—	⌈ 87	70	58	58	58	58	64	70	65	83	94	93	(59)	49	52	55⌋		0
3	✓			⌈ 54	57	59	62	75	74	84	126⌋	173	133	119	119	120	112	⌈ 87	62	58	72	84	81	62	77	87	102⌋	89	0
4	✓	✓		⌈ 102	103	117	128	102	90	87	90	112⌋	135	146	136	141	155	148	149	146	⌈ 74	130	106	44	90	87	102⌋	113	0
5	✓	✓	✓	155	188	199	186	206	222	200	161	149	152	160	161	155	145	148	122	132	116	145	146	154	157	145	157	161	0
6	✓	✓		160	151	141	145	135	125	122	129	125	120	130	130	149	⌈ 130	106	120	91	72	84	87	87	97	86	77⌋	117	0
7	✓			⌈ 72	72	72	80	113	167⌋	219	246	245	(240)	222	199	174	173	149	⌈ 97	72	58	57	116	91	42	46	58⌋	128	0
8	✓	✓		⌈ 70	81	116	175	244⌋	264	276	278	303	310	306	276	⌈ 218	186⌋	184	161	157	⌈ 110	87	99	125	130	97	93⌋	181	0
9	✓	✓		⌈ 116⌋	202	231	246	262	⌈ 248	200	268⌋	306	254	219	202	190	188	188	130	129	132	⌈ 88	117	106	122	114	119⌋	182	0
10	✓	✓		⌈ 145	175⌋	216	238	234	218	238	231	216	196	203	174	164	160	162	148	⌈ 110	90	84	46	44	44	44	46⌋	151	0
11	✓	✓		⌈ 52	52	54	52	55	51	55	83	174⌋	223	206	193	158	139	120	116	⌈ 68	46	58	45	23	23	32	38⌋	88	0
12				⌈ 44	44	39	41	28	29	29	28	25	28	29	30	36	39	35	32	28	29	32	32	44	55⌋	—	—		0
13				—	—	—	—	—	—	—	—	128	168	170	158	145	132	130	126	117	⌈ 87	54	49	44	44	44	44⌋		0
14	✓	✓		⌈ 45	49	51	44	30	29	30	28	29	48	57	59	68	72	74	59	45	54	54	29	35	44	39	35⌋	46	0
15	✓	✓		⌈ 58	78	117	133⌋	168	170	181	187	173	168	158	158	148	(132)	135	145	149	119	168	135	116	122	162	186	144	1
16	✓	✓		174	207	234	232	220	203	194	200	186	168	158	145	154	158	144	⌈ 54	59	58	144	145	129	144	93	58⌋	153	0
17				⌈ 81	112	122	—	—	—	—	—	14	16	20	25	28	29	29	32	30	29	20	28	29	29	28	30⌋		0
18				⌈ 35	35	29	29	25	28	22	17	19	28	29	35	42	42	44	44	57	71	77	99⌋	129	128	117	102		0
19	✓	✓		⌈ 87	58	48	35	39	45	54	45⌋	102	114	114	110	112	102	99	99	102	88	87	96	90	106	120	174	89	0
20	✓	✓	✓	187	209	228	231	234	246	255	270	264	257	246	220	206	213	203	202	186	187	162	162	187	216	251	274	221	0
21	✓			291	313	342	346	357	403	405	436	403	332	216	187	175	173	117	161	⌈ 90	77	44	30	28	42	57	71⌋	212	0
22	✓	✓		⌈ 88	107	102	57	72	62	44	45	54	57	78⌋	87	88	(87)	⌈ 38	30	32	23	25	33	23	35	42	54⌋	57	0
23	✓	✓		⌈ 54	44	41	35	39	45	58	72⌋	96	100	102	102	112	125	126	116	96	99	126	⌈ 59	62	68	71	62⌋	80	0
24				⌈ 58	59	59	61	59	61	62	99	170⌋	220	299	300	262	248	243	244	244	236	⌈ 45	74	78	52	41	54⌋		0
25	✓	✓		⌈ 61	62	62	61	58	59	54	55	71	102⌋	132	145	119	⌈ 68	70	75	74	87	102	87	107	70⌋	129	142	86	0
26	✓	✓	✓	126	103	100	102	97	114	152	191	194	186	168	144	128	126	133	144	128	155	135	144	186	⌈ 160	196⌋	226	147	0
27	✓			237	243	246	245	251	244	≷ 203	146	187	158	175	91	149	151≷	144	146	148	≷ 129	183	177	119	100	168	175≷	176	2
28	✓			≷ 135≷	162	177	184	188	187	203	203	216	≷ 218	142	42	84	93	120	187≷	232	232	219	≷ 170≷	175	174	173	187	171	2
29	✓	✓		188	188	200	197	212	209	174	132	145	168	188	191	202	(183)	187	162	161	146	157	158	170	170	177	174	177	1
30	✓	✓	✓	174	173	155	149	142	142	133	106	107	128	142	148	161	160	116	116	136	146	145	142	⌈ 130	128	125	119⌋	138	0
31	✓	✓	✓	⌈ 112	128	162⌋	193	216	228	229	236	203	204	186	184	162	162	168	160	170	168	167	164	146	174	173	188	178	0
MEANS * 24 DAYS				123	134	145	148	156	160	160	165	176	174	166	150	147	141	132	123	115	106	114	107	102	106	113	122	137	
MEANS † 19 DAYS				113	124	135	139	146	146	144	148	158	163	163	156	149	142	134	121	114	104	113	105	103	111	115	122	132	
MEANS ‡ 6 DAYS				155	168	180	182	186	187	192	192	182	182	177	169	160	156	150	148	150	148	154	149	153	160	175	192	169	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 400

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[50	38	38	50	53]	≷ 67 ≷	[52	60	55	59	75]	89	85	[52	(38)	35	50	50	50	50	(45)	43	47	50]		1
2				[38	25	26	37	53	57	55	45	52	47	38	30	37	37	38	38	39	52	60	60	(35)	29	29	34]		0
3	✓			[30	26	29	28	29	37	42	77]	101	87	79	79	85	75	[59	42	38	48	50	43	26	38	48	54]	52	0
4	✓	✓		[53	50	62	75	60	44	60	58	85]	104	110	99	97	113	113	113	113	[50	91	65	25	50	37	50]	74	0
5	✓	✓	✓	75	104	113	104	125	156	146	124	111	115	111	118	123	115	119	95	97	76	99	97	94	97	83	68	107	0
6	✓	✓		65	75	86	63	67	64	67	86	87	87	95	98	111	[91	70	87	62	49	48	52	53	65	52	47]	72	0
7	✓			[39	29	25	29	49	85]	146	201	206	204	(226)	204	171	158	137	[76	62	50	43	92	63	25	26	34]	99	0
8	✓	✓		[40	49	67	118	181]	247	257	273	303	315	313	284	[228	194]	205	162	150	[103	75	82	82	86	63	64]	164	0
9	✓	✓		[76]	169	216	216	249	[231	169	245]	306	267	230	215	197	196	191	128	111	115	[69	79	68	74	70	76]	165	0
10	✓	✓		[110	134]	169	194	189	185	202	211	202	197	193	178	161	169	157	146	[97	75	74	35	35	32	29	30]	134	0
11	✓	✓		[37	30	26	24	37	28	38	52	146]	222	211	192	146	128	107	98	[60	42	49	35	15	16	24	26]	75	0
12				[25	25	23	21	15	18	21	18	15	15	16	24	26	25	26	25	18	24	25	25	25	37	49	50]		0
13				[53	38	29	26	15	24	16	45	111]	169	157	142	133	121	112	109	103	[76	48	42	35	38	34	37]		0
14	✓	✓		[35	37	39	37	24	21	18	15	24	37	42	50	54	63	63	50	40	45	39	25	25	34	26	24]	36	0
15	✓	✓		[55	75	121	125]	159	167	179	184	178	173	157	146	145	126	(123)	133	134	103	156	126	103	111	149	166	137	1
16	✓	✓	✓	161	194	215	216	212	192	181	189	180	172	155	145	154	158	137	[38	53	52	134	133	119	131	73	38]	143	0
17				[52	86	86	67	—	—	—	—	—	15	18	16	18	23	21	24	24	25	15	18	19	24	23	25]		0
18				[29	26	21	—	—	—	—	—	13	16	19	26	30	28	35	34	43	60	63	91]	121	121	111	94		0
19	✓	✓		[83	50	30	25	25	30	38	71]	94	109	110	111	104	95	92	87	88	79	79	86	76	94	110	157	80	0
20	✓	✓	✓	180	209	221	232	234	248	250	256	276	265	264	244	215	215	202	192	171	173	153	139	155	180	216	243	214	0
21	✓			278	294	324	325	344	397	421	407	382	350	225	182	180	171	107	157	[85	64	34	23	18	33	50	57]	204	0
22	✓	✓		[67	75	87	45	62	48	25	33	45	50	68]	74	75	76	[(40)	37	24	28	21	25	25	25	29	39]	47	0
23	✓	✓		[38	28	25	25	26	30	34	53]	88	94	87	87	98	112	109	97	75	74	98	[39	42	40	44	35]	62	0
24				[29	29	25	29	—	—	—	—	156]	232	293	300	254	235	220	225	211	209	[42	60	64	38	25	33]		0
25	✓	✓		[37	38	35	40	38	29	25	28	52	82]	115	130	100	[50	49	63	53	63	77	64	87	50]	110	122	64	0
26	✓	✓	✓	105	77	74	77	75	99	145	197	193	190	169	138	121	116	123	133	116	144	116	122	166	[146	179]	204	134	0
27	✓			218	218	222	221	235	235	225	231	243	≷ 233	221	204	190	191	178 ≷	165	162	≷ 180	223	218	217	201	215	243 ≷	212	2
28	✓			≷ 244	183 ≷	146	148	155	156	171	182	202	≷ 180	199	158	86	179	219	183 ≷	219	213	202	≷ 123 ≷	147	146	159	161	173	2
29	✓	✓		157	161	184	186	188	178	144	101	123	157	184	185	202	169	(149)	138	134	123	126	131	133	131	125	133	152	1
30	✓	✓	✓	134	128	118	[99	87]	104	99	79	89	115	134	138	155	148	111	101	133	131	119	115	[103	99	87	75]	113	0
31	✓	✓	✓	[67	86	133]	169	188	203	204	212	191	190	166	166	149	154	159	157	159	153	145	134	107	123	125	157	154	0
MEANS * 24 DAYS				99	105	115	118	127	134	137	149	163	166	161	151	139	136	126	112	102	93	97	87	83	84	89	96	120	
MEANS † 19 DAYS				83	93	106	109	117	121	120	130	146	155	153	147	139	131	122	108	98	88	93	83	80	83	86	92	112	
MEANS ‡ 6 DAYS				120	133	146	150	154	163	170	175	173	175	167	158	151	146	140	135	135	130	131	122	121	126	140	152	146	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 401

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	89	91	96	87	75	64	62	71	62	67	70	78	82	87	88	98	104	101	96	96	106	101	99	87	86	0
2	✓	✓	✓	79	81	88	87	77	67	59	64	70	69	77	70	77	73	82	73	76	78	71	78	73	60	80	85	75	0
3	✓	✓	✓	92	98	93	81	67	65	64	66	74	75	76	75	81	86	94	93	98	94	77	49	52	76	68	63	77	0
4				54	60	52	53	52	49	52	57	63	63	58	63	71	73	85	91	93	90	87	—	—	—	—	114		0
5				106	105	106	130	—	—	—	—	≷ Z	N 62	N 2≷	99	74	⌈ 76	119	130	101⌋	≷125	120	64	97≷	⌈144	147	146⌋		1
6	✓	✓		⌈143	166	151	131	124	141	103	137⌋	105	80	64	62	72	66	74	65	76	66	53	53	52	48	59	58	90	0
7	✓			43	42	40	29	25	28	20	34	43	46	49	47	53	63	45	47	73	53	38	54	48	53	63	48	45	0
8				67	80	71	72	≷ Z	Z	120	119	Z	Z ≷	101	85	91	87	97	98	83	89	85	100	99	85	76	80		1
9	✓	✓	✓	101	103	101	87	78	76	67	66	76	82	82	106	86	97	97	110	125	129	125	117	108	108	100	92	97	0
10	✓	✓	✓	77	104	106	97	89	80	70	64	66	64	69	67	71	81	85	89	86	80	67	66	71	77	62	63	77	0
11	✓	✓	✓	58	70	64	55	48	50	50	48	52	68	66	63	71	69	68	74	80	87	52	58	67	62	57	86	63	0
12				101	93	88	91	81	≷N 60	58	47	N 57	Z	N 57	53	N 72	N 66	Z	Z	87	73	66	67	49	61	47≷	88		2
13				68	58	72	72	66	58	55	60	78	73	67	66	76	78	82	89	101	89	96	120	135	—	—	106		0
14	✓	✓		≷149≷	78	71	69	68	58	63	77	101	107	92	89	101	109	111	112	101	96	⌈ 93	129	134	126	149	139⌋	101	0
15	✓	✓	✓	⌈111	115⌋	106	101	87	73	72	64	67	68	67	70	76	84	89	90	93	78	66	⌈ 82	85	95	72⌋	62	82	0
16	✓	✓	✓	63	66	62	53	48	50	53	51	58	67	74	78	73	82	74	75	75	67	63	62	61	81	63	72	65	0
17	✓	✓	✓	72	68	58	53	51	47	38	34	38	42	45	46	56	61	67	70	67	⌈ 77	86	116⌋	86	91	98	106	66	0
18	✓			119	⌈121	153	122	97	99	91	89⌋	72	68	63	67	74	73	77	88	85	68	72	73	74	68	67	72	86	0
19	✓			68	72	73	77	62	56	48	45	47	71	84	90	93	97	104	101	109	91	81	77	90	96	94	87	80	0
20	✓	✓	✓	87	74	89	81	65	71	53	68	72	71	67	60	69	72	72	78	81	74	70	96	92	80	73	76	75	0
21	✓	✓	✓	77	115	105	103	90	83	72	78	57	51	52	51	57	65	65	67	62	52	71	102	115	115	101	110	80	0
22	✓	✓	✓	134	109	134	125	114	105	134	105	95	100	87	88	76	74	82	83	81	76	78	80	86	82	82	88	96	0
23	✓	✓		79	81	≷102	211	106	100	187	128≷	102	76	77	82	76	83	91	92	87	89	100	104	109	110	114	115	104	0
24	✓	✓	✓	106	101	96	98	97	86	83	73	70	78	82	82	77	87	87	91	93	86	67	71	78	78	82	86	85	0
25	✓	✓	✓	71	67	63	58	58	49	42	38	39	48	55	57	57	61	65	65	73	60	61	54	57	55	58	61	57	0
26	✓	✓	✓	58	62	54	47	43	45	38	38	45	39	47	47	58	56	66	62	62	62	51	59	72	76	66	60	55	0
27	✓	✓	✓	53	54	63	50	47	50	43	48	49	51	57	60	67	66	68	68	72	61	57	56	57	40	29	35	54	0
28				34	35	35	31	32	29	25	28	29	29	27	⌈ 47	N 27⌋	50	51	58	69	≷ -58	Z	N 26	46	62≷	100	⌈ 92⌋		1
29	✓	✓		⌈110	81	96	N 82⌋	83	67	⌈ 83	222	131	57⌋	66	57	73	93	96	99	94	66	65	71	72	80	89	86	88	0
30	✓	✓		83	76	77	69	64	68	52	44	44	45	52	52	62	65	67	69	66	65	65	61≷	-7	124	91	N 81≷	64	1
31																													
MEANS * 24 DAYS				88	87	89	86	73	70	69	73	68	66	68	68	72	77	80	82	84	77	72	78	77	83	80	80	77	
MEANS † 21 DAYS				90	89	89	87	75	71	71	75	70	67	68	69	72	77	80	82	83	78	73	79	77	84	81	81	78	
MEANS ‡ 16 DAYS				83	86	86	79	71	66	62	61	62	65	67	69	71	75	78	80	83	79	72	78	79	80	74	77	74	

DESIGNATIONS AND REMARKS:

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( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 402

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	744.4	16.7	61	23.9	11.0		10.8	ESE	11	E	15	E	14	ESE	8	ASt; Cu	1- 3	Cu	1- 3	
2	743.6	18.5	43	25.9	12.2		10.6	ENE	10	NE	11	ENE	11	ENE	4	Cu	1- 3	Cu	1- 3	
3	742.0	21.3	39	28.7	13.5		6.0	NE	5	NNE	8	NNE	7	..	0	CiSt; ACu; StCu	6- 8	CiSt; ACu; StCu	7- 8	Lightning in SW at 21h
4	738.3	25.4	33	29.4	16.0		9.1	..	0	N	8	WNW	6	..	0	CiCu; ACu; Cu; StCu	4- 8	CiCu; ACu; Cu; StCu	4- 8	Lightning in NE and SE in evening
5	735.2	21.3	81	22.2	16.3	0.04	3.4	N	1	NNW	9	SW	14	SW	4	ACu; Cu; Nb	8-10	ACu; Cu; Nb	7-10	Dew early; rain from 8h during day
6	742.4	18.0	85	22.7	12.9	0.04	2.4	S	3	SE	4	ENE	3	..	0	ASt; Cu; StCu; CuNb	9-10	ASt; Cu; StCu; CuNb	10	
7	738.0	19.5	68	23.6	16.0		0.1	..	0	NE	2	NW	3	..	0	ASt; StCu	9-10	ASt; StCu	10	
8	732.9	16.7	94	20.7	16.2	0.33	6.3	NNW	3	W	14	WSW	17	WSW	6	Cu; FrCu; Nb	7-10	Cu; FrCu; Nb	7-10	Rain at intervals in am; clearing at night
9	740.5	17.0	81	21.2	11.7	0.04	8.0	SW	1	SW	4	SSW	13	S	4	ACu; FrCu; Nb	8- 4	ACu; Cu; FrCu	3- 1	Scattered showers in am
10	746.0	13.5	59	20.6	6.7	0.01	10.1	S	3	E	7	E	11	ESE	3	Ci; CiSt; ACu; Cu	1- 6	CiSt; ACu; Cu	1- 3	Few drops rain in very early hours
11	744.1	19.2	41	26.2	10.1		5.6	E	2	NE	11	NNE	11	NNE	6	Ci; ACu; Cu	1- 3	ACu; Cu; CuNb	4- 6	Few drops rain in pm
12	738.8	18.5	95	23.3	18.0	0.11	0.2	N	6	NNW	9	NW	11	..	0	StCu; Nb	10	StCu; Nb	10	Heavy rain during day
13	742.2	19.6	92	24.6	16.7	0.77	5.3	..	0	..	0	WSW	6	WSW	2	ACu; Cu; StCu	7-10	ACu; Cu; StCu	6-10	Few drops rain in early am
14	743.6	18.9	72	22.6	13.6	0.01	3.4	..	0	..	0	SSW	4	SE	3	Ci; ACu; Cu	4- 7	Ci; ACu; Cu	4- 6	
15	745.9	15.7	68	21.9	10.2		10.2	SSE	3	E	14	ESE	13	ESE	4	Cu	6- 1		0	Dew early
16	745.3	17.9	46	26.3	7.3		10.0	E	2	ENE	6	NE	2	SE	3	Cu	3- 1		0	
17	742.8	21.3	43	31.2	11.1		10.2	..	0	..	0	WSW	2	SSW	6	ACu	0- 1		0	
18	744.1	18.5	80	24.1	11.6	T	7.1	S	2	ENE	1	SSW	8	SSW	3	ACu; Cu; StCu	1- 4	ACu; Cu; StCu	1- 3	Fog early
19	744.4	18.0	64	23.3	8.0	T	8.2	SW	2	..	0	SW	6	S	3	ACu; StCu	7-10	ACu; StCu	6- 3	
20	745.3	20.4	63	25.3	14.1		9.8	SSW	2	S	1	S	2	S	2	Cu	1- 4	Cu	1- 3	
21	745.3	17.7	67	28.7	10.2	T	9.7	S	2	SE	2	..	0	S	3	CiSt	4- 7	CiSt	4- 6	Dew early
22	742.8	19.0	76	24.1	10.8		7.9	SSW	2	S	4	WSW	8	WSW	2	Cu	7- 8	Cu	7- 8	Dew early
23	745.0	17.5	72	19.6	12.9	0.04	6.3	WSW	2	S	8	SSE	7	SSE	4	Cu; Nb	9-10	Cu	7- 4	Some rain in early hours; clear in evening
24	747.7	14.0	63	20.2	5.6		9.8	S	1	SE	8	E	7	SE	4		0		0	Dew early
25	745.4	17.8	47	25.6	6.5		7.6	SSE	2	ENE	1	NNE	2	SE	2	Ci	1- 3	Ci	1- 3	Dew early; clear in evening
26	744.5	17.6	43	24.6	8.5		0.4	S	1	..	0	SW	4	SW	2	CiCu; ASt	10- 3	ASt; Cu	3- 8	Clear at night
27	743.4	19.6	47	30.1	6.7		9.8	WNW	1	..	0	WNW	S	..	0	Ci	1- 3	Ci; Cu	4- 6	
28	741.7	17.7	58	30.9	13.4		0.0	..	0	..	0	..	0	..	0	ACu; ASt; Cu; StCu	10	Cu; StCu	10- 6	Rain in evening; mist at night
29	743.7	16.4	95	23.1	13.0	0.03	4.9	S	1	SSE	3	SE	2	SSE	3	Cu	1- 3	Cu	1- 3	Fog early, 6h-10h
30	738.8	18.3	76	23.5	10.1		6.6	SW	2	..	0	WNW	10	NW	3	Ci; ASt; StCu	3- 6	Cu; StCu; Nb	6-10	Dew early; probably rain after 20h
31																				
SUM						1.42														
MEAN	742.6	18.4	65	24.3	11.7		6.7		2.3		5.0		7.0		2.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 403

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	206	241	231	234	247	262	265	[209]	245	212	183	178	166	152	143	141	123	127	149	141	143	154	179	197	189	0
2	✓	✓	✓	227	238	251	255	265	261	268	268	231	210	197	185	188	183	183	183	183	183	196	188	197	223	228	235	218	0
3	✓	✓	✓	238	235	231	234	250	240	240	237	213	193	182	183	169	155	155	169	154	171	186	230	254	254	251	259	212	0
4	✓			283	268	271	261	272	268	271	252	240	221	213	212	212	182	171	161	143	143	143	155	173	169	158	145	208	0
5	✓			155	165	159	131	141	141	140	143	116	141	147	168	128	(113)	[75	73	99]	113	117	116	123	114	114	113	127	1
6	✓	✓		113	113	118	127	121	114	118	127	113	125	141	154	157	169	168	168	183	197	203	214	216	230	251	240	162	0
7				279	279	274	266	286	310	329	329	312	298	144	237	214	209	182	164	162	166	155	151	175	173	171	192		0
8				197	183	202	228	159	178	162	161	137	141	141	130	130	124	128	140	144	151	151	151	154	159	165	168		1
9	✓	✓	✓	176	178	178	192	197	209	210	203	183	175	152	144	138	137	141	143	143	149	143	147	155	155	161	168	166	0
10	✓	✓	✓	155	133	133	144	151	158	193	206	220	209	204	209	195	178	178	183	183	182	182	171	185	192	214	241	183	0
11	✓	✓	✓	279	271	274	285	323	334	338	317	272	212	182	173	179	175	182	[154]	138	130	168	185	172	199	210	182	222	0
12	✓			172	196	210	219	226	226	230	224	206	111	226	152	140	(138)	89	85	147	149	141	161	164	172	172	168	172	2
13				178	172	185	199	197	193	210	214	192	179	176	161	161	159	164	159	157	157	[154	111	113	144]	158	165		0
14	✓	✓		159	180	182	169	173	185	172	197	182	171	165	158	144	149	145	140	(130)	151	[154	111	99	113	107	120]	152	0
15	✓	✓	✓	[130	145]	155	164	183	203	212	231	241	212	210	196	197	182	166	161	161	179	186	[154	152	161	202]	237	184	0
16	✓	✓	✓	247	254	278	295	298	306	299	324	305	254	221	212	197	197	196	200	188	193	189	202	212	209	209	180	236	0
17	✓	✓	✓	182	209	241	258	265	264	282	338	340	300	265	250	235	223	210	200	185	[159	166	138]	169	169	164	147	223	0
18				135	[127	123	113]	—	—	—	—	190	185	185	183	179	166	154	157	159	161	168	154	173	188	197	212		0
19				226	237	251	—	—	—	—	—	307	230	180	168	155	(152)	147	154	154	168	171	169	169	169	171	178		0
20	✓	✓	✓	196	210	204	196	210	202	220	220	203	183	186	182	180	183	179	171	172	169	165	131	151	169	178	169	185	0
21	✓	✓	✓	155	137	138	141	152	155	166	182	235	257	265	245	243	226	214	212	213	223	200	168	152	152	154	152	189	0
22	✓	✓	✓	138	141	138	140	143	145	127	127	138	138	152	152	149	149	154	147	143	144	152	157	169	171	175	193	149	0
23	✓	✓		197	210	182	145	154	155	155	144	144	143	155	155	151	152	144	138	140	155	138	144	143	149	157	145	154	0
24	✓	✓	✓	152	143	141	154	155	168	169	178	202	180	169	171	165	169	169	169	169	178	189	196	189	197	203	188	173	0
25	✓	✓	✓	214	217	226	228	240	264	306	368	386	347	282	257	245	221	216	224	224	212	212	200	237	243	252	259	253	0
26	✓	✓	✓	285	286	288	300	310	307	327	374	[316]	376	288	258	240	(173)	169	183	193	188	193	183	182	192	226	254	254	0
27	✓	✓	✓	281	269	269	282	316	286	307	327	319	312	269	244	227	223	214	199	190	195	202	210	220	265	329	337	262	0
28				341	355	392	436	433	413	422	465	465	470	406	333	207	195	182	172	169	154	113	196	209	193	179	[155]		1
29	✓	✓		[143	141	197	155]	196	214	[180	121	165	210]	248	258	235	200	178	179	185	197	197	224	238	226	212	214	196	0
30	✓	✓		220	231	238	252	272	271	290	323	(355)	324	266	243	183	162	168	158	154	157	169	185	154	155	152	(152)	218	1
31																													
MEANS * 24 DAYS				196	200	206	207	219	222	229	235	232	217	207	197	186	175	167	164	164	168	172	171	177	185	194	196	196	
MEANS † 21 DAYS				195	199	204	207	220	224	231	239	238	226	209	200	190	179	175	172	169	173	178	175	180	189	201	203	199	
MEANS ‡ 16 DAYS				204	207	211	219	232	235	246	257	253	236	213	202	195	183	179	177	173	174	180	175	184	194	208	209	206	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 404

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	170	224	223	220	231	245	242	[208]	241	216	180	173	158	146	137	136	120	133	143	133	130	144	166	188	179	0
2	✓	✓	✓	215	228	234	241	251	251	251	262	242	223	210	198	196	190	188	185	176	169	175	170	179	192	192	209	209	0
3	✓	✓	✓	215	209	208	200	211	208	213	223	208	195	181	181	166	144	144	147	135	136	156	198	216	213	223	232	190	0
4	✓			247	238	245	241	260	258	251	234	254	233	242	230	228	188	173	163	144	141	129	135	158	(150	140)	131	201	0
5	✓			126	120	114	98	121	123	122	131	≷146	154	166≶	166	125	[118	(71)	65	94]	101	101	110	110	[85	84	90]	114	1
6	✓	✓		[87	67	85	80	75	75	87	87]	95	120	140	147	155	158	153	156	158	156	169	175	174	180	184	201	132	0
7				230	242	234	250	276	—	—	—	284	281	260	227	197	187	174	155	136	140	143	131	152	147	—	—		0
8				—	—	—	—	—	—	—	—	≷145	135≶	132	133	125	122	122	125	133	129	123	121	120	110	103	118		1
9	✓	✓	✓	122	134	142	[144]	175	155	176	[200]	(189)	176	164	144	131	131	133	125	122	113	110	114	110	110	110	113	139	0
10	✓	✓	✓	118	100	100	107	122	134	146	188	212	200	201	209	194	176	176	168	167	167	157	152	154	167	178	217	163	0
11	✓	✓	✓	251	239	239	240	299	313	322	303	268	201	177	169	167	164	166	[136]	117	107	146	162	151	176	187	156	202	0
12	✓			154	176	187	188	206	216	223	219	204	≷185	147≶	144	145	(141)≷	175	163≶	137	135	128	133	143	142	144	135	165	2
13				146	151	146	148	—	—	—	—	145	156	159	155	154	157	157	151	143	137	[113	87]	—	—	—	98		0
14	✓	✓		110	106	114	110	115	132	124	146	144	144	125	129	125	133	125	122	124	132	[125	87	77	96	87	91]	118	0
15	✓	✓	✓	[114	124]	133	143	157	192	207	236	247	212	209	199	198	184	166	158	155	168	175	[133	125	132	178]	198	173	0
16	✓	✓	✓	211	215	233	261	274	284	280	311	305	260	226	208	195	181	183	180	175	163	166	169	180	177	195	169	217	0
17	✓	✓	✓	166	191	230	250	259	260	281	310	323	312	280	265	247	224	200	191	177	[147	147	113]	151	144	135	124	214	0
18				110	[91	82	77	98	76	100	141]	170	166	166	167	165	152	141	142	137	131	121	111	132	144	152	—		0
19				—	—	—	—	—	—	—	—	280	199	155	146	143	142	(125)	125	121	126	122	131	120	110	110	120		0
20	✓	✓	✓	125	146	144	141	142	144	180	173	175	157	167	165	166	162	157	145	136	134	124	108	113	137	147	136	147	0
21	✓	✓	✓	133	110	107	118	125	137	154	165	224	239	250	231	224	212	198	197	180	181	167	134	123	123	124	122	166	0
22	✓	✓	✓	98	122	106	109	118	120	103	111	120	111	132	134	136	131	132	122	123	121	124	122	128	133	148	165	124	0
23	✓	✓		168	175	≷144	87	101	113	108	107≶	125	137	148	146	147	144	146	124	123	122	109	120	114	117	109	98	126	0
24	✓	✓	✓	111	115	115	122	133	153	156	168	212	187	165	157	153	155	158	155	155	153	147	148	155	155	162	166	152	0
25	✓	✓	✓	198	201	212	217	230	253	300	366	373	336	280	254	239	211	201	195	183	177	191	188	198	212	226	242	237	0
26	✓	✓	✓	261	259	271	284	272	303	315	330	[302]	374	289	261	232	(188	146)	162	166	167	175	177	166	175	198	236	238	0
27	✓	✓	✓	240	272	267	268	282	272	272	304	302	300	267	244	238	228	211	201	184	176	175	187	187	238	288	306	246	0
28				309	344	382	434	432	402	408	445	443	453	397	319	206	175	157	148	144	174	≷166≶	—	—	—	—	[116]		1
29	✓	✓		[108	120	164	122]	153	166	[157	89	144	212]	251	261	226	188	158	162	166	158	167	174	198	187	178	189	171	0
30	✓	✓		197	209	211	226	238	234	257	273	(324)	336	280	250	189	162	165	154	137	140	144	165	≷160≶	(123	132)≷	132≶	202	1
31																													
MEANS * 24 DAYS				164	171	176	176	190	198	205	214	224	218	203	194	182	169	161	155	148	146	148	146	150	154	163	169	176	
MEANS † 21 DAYS				163	170	175	176	189	197	206	217	227	221	206	196	185	172	164	158	151	149	152	149	152	159	169	176	178	
MEANS ‡ 16 DAYS				172	181	185	192	205	214	225	241	246	231	211	200	190	177	168	163	154	151	155	150	154	164	179	186	187	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 405

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				113	111	111	107	105	111	84	76	78	82	94	N 1	83	N 43	Z	N 88	87	63	62	66	64	58	59	58		1
2				66	71	73	73	65	N 41	45	57	N 78	66	N 0	N 80	77	64	55	58	58	55	47	45	39	39	43	—		1
3				—	—	—	—	—	—	—	—	58	65	56	N 10	N 24	63	60	71	69	68	58	52	50	52	56	67		1
4	✓	✓		64	86	76	74	68	61	58	39	N 63	97	68	66	66	74	78	76	76	75	77	64	64	68	58	73	70	1
5	✓	✓		63	59	63	54	[72	69	64	52	48]	48	68	75	78	80	82	92	79	68	72	73	81	71	64	64	68	0
6	✓	✓	✓	68	58	68	73	68	57	50	58	55	58	63	63	63	67	74	74	73	68	79	[96	84]	79	68	65	68	0
7	✓	✓	✓	78	68	[100]	68	64	54	51	52	58	63	67	73	74	74	78	83	73	58	59	71	68	68	52	59	67	0
8	✓	✓	✓	63	68	63	48	44	47	45	42	59	60	69	67	68	65	68	78	69	52	45	43	40	40	47	45	56	0
9	✓	✓	✓	43	44	46	47	53	53	52	55	72	72	76	81	80	83	90	88	81	53	45	48	53	55	56	48	61	0
10	✓	✓	✓	54	49	47	48	44	39	40	45	54	67	77	77	82	82	87	87	82	76	72	64	55	43	43	49	61	0
11	✓			52	48	45	39	38	33	33	30	N 23	42	48	62	N 34	N 30	53	90	90	63	57	N 25	N 48	102	87	97	53	1
12	✓			86	82	69	73	67	69	68	64	57	50	39	39	49	48	50	54	53	53	56	62	62	58	59	62	60	0
13	✓	✓	✓	60	56	53	53	54	57	57	52	57	57	55	54	55	63	65	69	66	54	49	65	58	63	68	59	58	0
14	✓	✓	✓	57	62	58	61	54	50	43	40	44	51	51	48	50	58	63	60	56	48	55	55	49	50	53	53	53	0
15	✓	✓	✓	49	47	49	45	43	40	36	38	40	45	50	52	52	45	47	43	47	35	33	32	33	46	52	56	44	0
16	✓	✓	✓	50	53	68	78	96	104	105	119	101	87	81	75	76	79	74	76	78	73	77	86	102	102	102	102	85	0
17	✓	✓	✓	104	107	120	116	102	109	106	88	78	70	64	77	76	83	82	89	92	87	95	103	103	107	102	97	94	0
18	✓	✓	✓	87	81	78	74	71	68	66	64	54	59	60	58	64	61	63	67	73	[82	88	98	82]	71	67	66	71	0
19	✓	✓	✓	67	62	65	62	63	60	51	51	61	78	65	64	65	70	74	73	70	66	55	58	58	66	63	60	64	0
20	✓	✓	✓	55	49	47	56	53	39	36	33	43	45	47	56	58	63	58	69	82	63	59	58	63	58	54	54	54	0
21	✓	✓	✓	48	52	49	50	63	64	51	54	61	54	53	67	57	66	67	77	78	73	92	78	62	58	63	77	63	0
22	✓	✓	✓	79	86	87	77	69	60	61	67	76	84	74	82	87	82	91	96	83	67	51	50	64	93	93	78	77	0
23				N 53	Z	Z	−17	Z	Z	N 76	123	78	Z	N 45	77	N 47	N 40	N 37	97	97	92	78	82	64	71	61	61		2
24	✓	✓		54	58	58	55	53	49	43	[67	100	82]	49	58	62	52	61	N 33	N 38	34	39	45	[83	82	74	57]	58	1
25	✓	✓		[72	43	40	40	49	53	34	38	40	57]	77	80	77	89	92	85	87	81	77	82	[61	77	73	136]	68	0
26	✓	✓		[107	111	97	96	74	58	52	52]	58	54	70	81	78	85	83	77	79	50	56	83	81	87	117	92	78	0
27				N 56	Z	N 88	120	N 68	N 62	77	87	115	96	105	90	82	84	82	83	81	72	71	62	57	53	48	52		1
28				45	42	43	42	43	38	32	37	39	49	68	68	67	65	71	Z	N 43	Z	Z	Z	Z	92	Z	−31		2
29				135	169	Z+	Z	Z	Z	Z	Z	Z+	Z+	Z+	Z	Z	Z+	Z+	Z+	N 170	N 82	79	76	N 48	82	98	N 69		2
30	✓	✓		92	108	100	107	N 72	84	92	101	93	91	92	82	69	72	75	N 73	92	79	N 19	N 40	79	88	81	88	82	1
31	✓	✓		81	64	74	73	69	61	49	63	N 39	51	77	N 72	67	N 46	N 51	74	69	56	58	55	48	N 35	53	58	60	1
MEANS * 24 DAYS				68	67	68	65	63	60	56	57	60	63	64	67	66	67	71	74	74	63	61	64	66	69	69	71	66	
MEANS † 22 DAYS				68	67	68	66	64	61	56	58	62	65	66	69	68	70	73	74	74	64	61	66	67	68	68	70	66	
MEANS ‡ 15 DAYS				64	63	67	64	63	60	57	57	61	63	63	66	67	69	72	75	74	64	64	67	65	67	66	65	66	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 406

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	740.6	14.0	69	16.8	9.9	0.06	5.3	WSW	6	W	5	WNW	9	NNW	2	Cu	10- 7	Cu	6- 1	Light showers at intervals in am
2	739.5	15.0	90	18.0	8.2	0.18	3.1	NNW	4	NNW	4	W	9	NNW	1	Cu; Nb	10	Cu; Nb	10- 4	Light showers in early am; dew at night
3	738.7	14.6	92	19.9	8.7	0.07	5.6	N	2	NNW	4	WNW	10	NW	1	ASt; Cu; StCu; Nb	9-10	Cu; StCu; Nb	8- 3	Fog early; rain in am; dew in evening
4	741.2	16.3	87	20.8	10.7	0.07	6.1	NW	1	N	1	W	8	SSW	1	ACu; ASt; Cu; Nb	6- 8	Ci; StCu; Cu; CuNb	8- 3	Clear sky at night, with dew
5	745.1	13.7	86	20.4	5.7	0.02	6.0	NW	1	..	0	SSE	2	SW	3	Ci; CiSt; ACu; StCu	4- 6	ASt; Cu	4- 8	Fog until 8h5; clear sky at night
6	747.7	16.0	71	23.8	9.5	T	9.6	SSE	1	SE	3	ESE	6	SSE	6	Ci; ASt; ACu	1- 3	CiSt; ASt	1- 3	Dew early; cloudless at night
7	748.1	19.7	54	27.5	12.3		9.7	ESE	3	ENE	4	ENE	8	SE	5	ASt; ACu	1- 3	CiSt	1- 3	Cloudless at night
8	748.4	19.5	44	26.8	12.3		9.4	NE	2	ENE	4	E	2	..	0	Ci; ASt	1- 6	Ci	4- 6	
9	747.6	19.2	41	27.5	9.4		9.3	NNE	2	NNE	3	NE	4	..	0	ASt	1- 3	ASt; Cu	4- 6	
10	745.1	18.8	37	28.3	8.0		9.2	NNW	1	NNE	3	NNW	8	WNW	1		0	Ci; ASt	1- 3	
11	745.2	18.6	73	19.4	9.3		0.0	..	0	..	0	S	2	SE	5	ASt; StCu; StNb	10	Cu; StNb	10	Light rain in pm
12	744.9	16.0	76	20.1	13.9	0.02	0.6	SSE	5	SE	10	ESE	10	SSE	6	Cu; StCu; StNb	10	Cu; StCu; StNb	10- 4	
13	743.8	17.5	59	25.1	13.7		7.2	SE	6	ESE	9	ENE	7	SE	3	CiSt; ASt; FrCu	4- 7	CiSt; ASt; Cu; FrCu	4- 6	
14	743.9	17.7	36	26.8	8.0		9.2	SE	1	ESE	1	ENE	4	SE	2	Ci; ACu	1- 3	Ci; ACu	1- 3	
15	741.0	15.7	46	25.9	8.5		1.4	..	0	N	1	NW	2	..	0	ASt	10	ASt; StCu	10	
16	741.1	17.3	78	22.3	11.5		9.0	SW	3	S	7	S	9	SSW	5	CiCu; StCu	1- 6	FrCu	1- 3	Dew early, possibly fog; clear sky at night
17	742.6	15.5	75	20.0	9.4	T	8.4	S	4	SSE	9	SE	12	S	6	Cu; StCu	7-10	Cu; FrCu	7- 4	Dew early; clear sky at night
18	745.0	14.4	74	20.9	9.5		8.9	SE	8	SE	15	ESE	11	SE	5	ASt; Cu; StCu	3- 6	Cu	1- 3	Clear at night
19	746.8	12.4	67	18.7	5.5		9:2	SE	4	ESE	10	E	11	SE	5		0		0	Dew early; some thin haze in sky
20	747.6	13.5	58	20.1	4.1		9.2	E	2	ENE	7	E	11	SE	4	CiSt	1- 3	CiSt	1- 3	Clear at night; some thin haze in sky during day
21	748.6	13.3	53	12.2	5.7		7.1	E	3	ENE	6	ENE	12	E	4	CiSt	7- 8	CiSt	7- 8	Cloudless in evening
22	745.5	14.5	57	23.1	6.6		7.3	ENE	7	NE	7	NNE	10	ENE	6	CiCu; ACu; ASt	4- 8	ASt; StCu	7- 8	Clearing in evening
23	738.5	13.5	89	19.4	11.5	0.32	1.9	NNE	8	NE	11	NW	7	N	1	StCu; Nb	10	Cu; StCu; Nb	10- 3	Rain in early am; cloudless in evening; dew at 21h
24	742.2	12.9	100	21.1	8.0	0.18	2.1	NE	1	N	2	N	4	..	0	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Fog until 10h; occasional showers;clearing in eve.; mist 21h
25	741.5	16.5	88	22.3	9.7	0.04	7.5	..	0	..	0	WNW	12	W	1	Cu; StCu	4- 8	Cu; StCu	7- 8	Fog early; fog in late evening
26	740.0	12.7	95	21.5	7.1		5.9	..	0	N	2	NW	7	NNW	6	Cu; StCu	4- 8	Cu; StCu	4- 6	Heavy fog early
27	738.7	16.0	84	20.0	11.3	0.18	7.2	NNW	1	WSW	1	W	4	SW	3	StCu	7- 8	StCu	6- 1	Rain in early hours or late previous night
28	736.5	15.5	75	23.2	7.0	T	4.3	..	0	N	2	NNE	10	N	19	Cu; StCu	7-10	StCu; Nb	7-10	Showers in evening
29	730.7	12.5	85	17.2	9.2	0.74	5.4	WNW	14	NW	5	WNW	20	NW	12	CuNb; Nb	7-10	CuNb; Nb	10	Rain at intervals from early am
30	732.7	16.3	78	18.8	9.6	0.20	5.9	NNW	4	WNW	14	WNW	24	WNW	11	Cu; StCu; CuNb	7-10	StCu; CuNb	7-10	Some driving showers
31	737.1	15.4	91	18.1	11.5	0.23	3.9	WNW	6	WNW	4	WSW	12	..	0	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Rain at intervals
SUM						2.31														
MEAN	742.4	15.6	71	21.8	9.2		6.3		3.2		5.0		8.6		4.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 407

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				—	—	—	—	—	—	—	—	164	153	145	}137{	149	147	}119{	148	151	153	163	167	193	204	204	208		1
2				205	203	192	193	—	—	—	—	190	189	}173{	177	173	177	174	173	175	175	188	181	207	208	230	243		1
3	✓			230	205	219	248	255	[243	237]	315	223	201	(189)	182	178	(175	163)	164	164	174	188	201	195	(219)	216	196	208	1
4	✓	✓		200	204	223	223	232	}232{	203	193}	229	216	189	188	181	177	174	177	174	175	173	189	196	205	236	219	200	1
5	✓	✓		223	247	245	260	[189	240	201	300	325]	340	247	201	175	177	170	177	174	184	178	192	200	204	203	205	219	0
6	✓	✓	✓	200	218	214	216	230	262	292	306	314	299	292	290	286	273	271	269	259	249	236	[186	205]	251	297	300	259	0
7	✓	✓	✓	301	314	300	310	326	315	314	311	273	252	252	245	230	214	218	219	200	205	216	196	229	259	297	312	263	0
8	✓	✓	✓	312	299	299	306	314	300	314	316	269	259	233	221	211	219	218	[190	189]	207	225	245	252	259	264	274	258	0
9	✓	✓	✓	301	326	327	338	314	292	286	286	263	229	232	218	205	184	196	196	203	211	215	247	248	247	274	296	256	0
10	✓	✓	✓	288	311	323	344	371	410	421	392	345	288	247	208	182	(189)	182	190	190	178	173	192	221	259	293	300	271	0
11				314	333	345	355	384	408	432	441	422	292	252	210	210	208	205	193	169	164	164	160	167	152	156	178		1
12				203	222	222	234	241	233	247	247	256	262	274	284	288	288	288	286	284	271	236	205	219	241	259	262		0
13	✓	✓	✓	275	307	329	330	334	325	315	312	316	311	279	301	285	264	241	215	225	251	256	[205]	243	248	266	300	281	0
14	✓	✓	✓	315	318	329	326	329	345	370	388	[379	325]	293	270	260	243	223	233	236	219	236	221	245	260	271	285	288	0
15	✓	✓	✓	293	326	337	370	381	381	392	379	366	356	316	292	255	247	245	260	259	306	325	332	341	306	288	290	318	0
16	✓	✓	✓	333	315	274	208	193	175	174	145	155	178	193	196	207	216	233	248	252	242	223	210	178	178	182	178	212	0
17	✓	✓	✓	178	186	181	189	199	192	192	214	214	222	219	210	205	(210)	178	188	193	190	164	151	151	153	164	178	188	0
18	✓	✓	✓	201	219	233	247	266	277	279	274	274	255	238	219	201	218	219	204	205	[184	163	140	173]	192	210	232	222	0
19	✓	✓	✓	249	275	279	288	292	279	288	292	[270	181]	215	200	196	189	188	201	218	218	227	232	232	233	242	259	239	0
20	✓	✓	✓	277	297	310	306	303	341	369	358	295	263	218	204	196	192	200	192	188	204	204	218	236	255	270	289	258	0
21	✓	✓	✓	303	308	314	314	289	270	256	264	[218]	248	230	204	205	201	203	205	204	203	[151	163	208]	256	264	258	239	0
22	✓	✓	✓	259	243	243	247	241	264	286	262	253	222	218	208	207	201	204	201	201	204	241	249	221	190	203	216	228	0
23				}205{	192	211	207	177	99}	216	210	215	}178{	218	222	230	236	}236{	196	173	177	178	173	—	—	—	286		2
24	✓	✓		301	318	327	358	369	369	407	[288	258	264]	315	289	259	(230)	214	204	232	270	258	273	[125	151	166	249]	271	1
25	✓	✓		[190	315	312	345	329	314	382	396	(396)	327]	222	178	177	174	170	175	177	181	181	192	200	204	[186	104]	243	0
26	✓	✓		[129	164	167	189	219	288	327	338]	334	344	277	245	227	196	190	178	189	204	201	167	178	188	179	192	221	0
27				}192{	100	163}	181	—	—	—	—	182	178	174	167	167	169	167	175	167	177	188	215	245	258	286	284		1
28				300	340	327	344	369	384	386	382	381	319	242	203	181	178	170	}171{	178	134	79	126	174	205	133	145}		2
29				}132{	134	151	129	112	125	138	122	163	159	149	136	140	132	134	151	147	149}	163	175	}147{	162	153	}149{		2
30	✓	✓		149	149	158	149	}147{	145	140	149	159	152	152	149	142	145	151	163	162	163	}153{	163}	163	163	163	164	154	1
31	✓	✓		175	173	166	163	169	177	163	164	}163{	169	178	163	163	(164)	}164{	164	174	174	173	178	}215{	192}	196	190	174	1
MEANS * 23 DAYS				247	262	266	273	274	280	287	289	274	257	237	221	210	204	201	201	203	209	207	206	211	221	232	239	238	
MEANS † 22 DAYS				248	265	268	274	274	282	290	288	276	259	239	223	212	206	202	202	205	210	208	206	212	221	232	240	239	
MEANS ‡ 15 DAYS				272	284	286	289	292	295	303	300	280	259	245	232	222	217	215	214	215	218	217	212	226	236	252	264	252	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 408

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				121	113	96	113	122	114	130	131	142	143	135	152	152	157	146	141	132	134	142	152	174	182	188	196		1
2				202	198	184	186	195	195	195	189	176	184	168	159	166	164	161	156	155	146	159	164	189	206	216	221		1
3	✓			216	191	205	226	226	206	216	289	207	192	197	195	177	170	160	143	142	135	156	173	184	192	183	166	189	1
4	✓	✓		168	153	175	186	183	175	164	175	184	164	170	173	168	161	157	159	152	141	131	145	155	152	182	185	165	1
5	✓	✓		183	199	236	250	153	206	193	286	303	325	227	180	152	151	142	133	144	141	141	149	151	165	170	152	189	0
6	✓	✓	✓	174	176	181	174	205	236	277	276	303	291	276	280	278	272	265	262	251	216	195	158	175	203	247	278	235	0
7	✓	✓	✓	264	278	238	286	296	291	293	279	256	240	235	234	216	205	204	195	183	197	186	173	195	224	254	274	237	0
8	✓	✓	✓	265	273	258	276	282	256	285	286	255	255	225	214	203	206	204	164	174	182	198	215	236	245	254	255	236	0
9	✓	✓	✓	283	303	313	316	294	285	276	277	246	235	227	209	202	170	181	183	174	182	197	211	217	229	252	256	238	0
10	✓	✓	✓	268	298	320	340	362	402	402	374	280	237	204	177	161	163	156	163	163	153	146	163	186	216	239	245	242	0
11				256	272	279	284	305	322	337	346	415	279	244	204	215	215	199	164	143	159	161	—	—	—	—	—		1
12				—	—	—	—	—	240	256	—	276	276	283	288	294	295	293	288	286	267	227	195	196	219	239	255		0
13	✓	✓	✓	274	303	324	321	317	308	309	309	308	305	287	303	288	267	242	208	220	237	230	185	205	218	233	280	270	0
14	✓	✓	✓	303	312	288	295	295	326	340	363	335	313	288	266	264	235	218	217	218	202	195	202	218	244	248	255	268	0
15	✓	✓	✓	276	305	322	336	355	366	384	372	351	346	312	287	254	256	239	239	235	276	298	307	317	286	263	264	302	0
16	✓	✓	✓	305	295	255	203	178	153	132	123	134	163	178	188	190	203	220	235	239	226	205	188	157	153	153	152	193	0
17	✓	✓	✓	152	162	156	159	165	158	163	183	205	232	234	217	207	207	193	182	174	166	152	130	130	126	134	153	172	0
18	✓	✓	✓	186	212	215	239	255	267	265	268	275	258	246	221	204	218	226	204	195	173	150	122	144	162	182	216	213	0
19	✓	✓	✓	237	259	262	266	247	247	257	280	273	186	206	194	186	180	178	194	206	205	198	207	210	199	217	221	221	0
20	✓	✓	✓	249	260	285	282	280	321	352	343	286	273	227	203	197	189	194	184	173	184	182	193	215	224	237	273	242	0
21	✓	✓	✓	285	287	288	291	264	242	227	236	216	246	224	194	198	194	194	189	184	182	131	142	184	235	235	228	221	0
22	✓	✓	✓	230	215	214	215	205	233	241	232	228	215	214	198	194	185	183	173	170	175	205	215	197	162	163	181	202	0
23				186	165	204	216	206	298	186	177	185	234	222	219	237	245	240	176	149	133	145	141	171	184	222	236		2
24	✓	✓		277	275	262	284	306	331	360	280	267	273	313	280	235	218	193	194	223	234	215	197	118	117	145	212	242	1
25	✓	✓		194	298	304	325	288	314	404	382	381	318	216	181	177	165	160	156	143	134	139	141	163	142	138	78	223	0
26	✓	✓		116	131	142	155	204	269	294	324	322	331	259	228	222	185	182	173	161	174	175	146	157	150	144	144	200	0
27				152	163	129	125	139	150	142	142	133	141	144	144	144	151	152	149	132	120	131	165	206	215	219	255		1
28				265	288	302	304	—	—	—	—	353	305	240	204	183	177	162	166	176	238	286	288	238	194	212	183		2
29				123	118	97	97	118	102	116	117	117	133	112	108	110	—	—	—	—	—	—	—	—	150	143	156		2
30	✓	✓		130	119	130	130	144	137	125	129	141	141	138	143	137	138	139	149	142	143	152	156	147	143	141	139	139	1
31	✓	✓		138	144	139	132	133	143	138	144	163	152	152	143	149	152	156	145	144	144	143	142	173	156	164	153	148	1
MEANS * 23 DAYS				225	237	240	247	245	255	265	270	257	247	228	213	203	195	191	185	183	183	179	177	184	189	199	207	217	
MEANS † 22 DAYS				225	239	241	248	246	258	267	269	260	250	230	214	204	196	192	186	185	185	180	177	184	189	200	209	218	
MEANS ‡ 15 DAYS				250	263	261	267	267	273	280	280	263	253	239	226	216	210	206	199	197	197	191	187	199	208	221	235	233	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

()=INTERPOLATED []=APPROXIMATE ⌈⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 409

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	65	62	63	67	50	43	43	43	74	63	66	65	58	68	77	82	91	94	89	83	72	67	81	72	68	0
2	✓	✓	✓	72	73	62	60	46	43	39	48	55	60	63	68	76	78	76	80	76	52	53	62	72	69	64	63	63	0
3	✓	✓	✓	63	68	70	63	56	55	48	47	50	51	60	66	69	67	73	74	71	54	57	63	65	63	61	62	62	0
4	✓	✓	✓	67	50	71	63	58	53	47	43	41	47	48	56	72	66	68	72	68	38	43	58	53	63	42	50	56	0
5	✓	✓	✓	50	44	45	34	35	29	21	20	33	38	58	74	76	69	66	81	82	91	83	72	71	74	76	72	58	0
6				82	72	78	72	77	96	62	N 42	93	78	76	64	63	66	67	74	81	52	N 54	57	N 58	Z	Z	63		1
7	✓	✓		49	76	91	85	[121	145	109	120	125	76]	72	76	79	74	88	82	76	58	62	66	78	77	78	73	85	0
8	✓	✓		68	67	72	77	67	68	60	53	59	63	66	77	78	95	83	92	97	101	100	92	77	79	81	N111	78	1
9				Z	N 88	Z	206	136	110	88	92	87	112	102	106	98	100	N 74	106	115	80	112	77	76	73	100	112		1
10	✓	✓	✓	87	91	101	93	114	96	93	95	104	87	95	76	91	91	101	88	95	101	110	101	87	77	88	83	94	0
11	✓	✓	✓	91	77	83	68	72	61	63	58	63	66	76	79	72	67	68	79	63	47	57	54	53	50	54	43	65	0
12	✓	✓		54	52	54	56	52	50	38	41	43	44	63	63	71	69	97	N 2	93	105	102	95	91	88	98	114	68	1
13	✓	✓		133	137	121	112	97	82	85	78	77	86	80	78	83	73	101	102	72	73	100	97	N 73	106	98	102	94	1
14	✓			156	133	135	147	135	143	138	120	114	107	112	117	125	121	135	126	[164	165	169	129]	101	78	88	107	128	0
15	✓	✓	✓	120	125	125	106	100	88	82	83	77	76	72	77	88	88	86	83	86	63	63	73	67	74	76	76	86	0
16	✓	✓	✓	95	88	96	87	97	87	82	77	67	57	67	67	75	77	90	92	86	64	67	71	91	86	105	90	82	0
17	✓	✓	✓	78	82	87	87	88	82	67	67	58	54	64	73	91	96	115	105	82	67	82	73	80	85	87	87	81	0
18	✓	✓	✓	87	85	83	86	74	74	77	77	67	67	63	67	72	72	81	81	63	45	56	56	52	58	63	59	69	0
19	✓	✓	✓	63	67	76	84	71	68	62	58	61	54	76	79	78	83	80	78	72	[49]	51	53	52	48	53	48	65	0
20	✓	✓	✓	46	48	48	49	51	44	43	39	48	50	51	54	58	81	93	101	96	78	87	86	67	63	67	66	63	0
21				66	57	51	55	48	48	40	38	38	44	67	N145	Z	125	155	Z	120	106	102	97	91	78	81	87		1
22	✓	✓		87	95	82	66	59	N 62	73	69	102	87	97	101	98	101	100	111	97	74	82	87	77	94	79	85	86	1
23	✓	✓	✓	86	78	77	77	72	72	63	63	63	61	67	76	77	82	93	92	86	62	72	64	78	69	72	64	74	0
24	✓	✓	✓	80	86	85	82	77	72	59	53	58	58	58	65	72	88	86	91	86	66	63	76	69	63	67	53	71	0
25	✓	✓	✓	62	62	67	67	64	63	52	53	67	53	59	66	82	83	79	80	87	63	61	57	57	59	54	54	65	0
26				49	53	60	64	57	53	50	53	60	67	76	76	63	N 50	63	67	87	91	79	77	N 31	Z	Z+	Z		2
27				Z	Z−	Z	Z+	Z+	44	N 80	114	141	130	111	95	99	101	99	102	97	83	91	87	77	82	71	64		2
28	✓	✓	✓	77	76	71	[91	93	76]	72	69	65	55	72	77	68	77	78	86	78	75	69	77	65	58	63	67	73	0
29	✓	✓	✓	71	72	78	85	87	82	76	63	72	72	74	90	91	100	97	105	105	91	84	81	73	87	91	90	84	0
30				87	81	89	97	101	90	92	101	N 73	90	84	Z	Z+	Z+	N104	N102	111	114	112	103	104	115	114	101		1
31																													
MEANS * 24 DAYS				79	79	81	79	76	72	66	64	68	64	70	74	79	82	88	86	86	74	78	76	72	72	74	75	76	
MEANS † 23 DAYS				76	77	79	76	74	69	63	62	66	62	68	73	77	80	86	84	83	70	74	74	70	72	74	73	73	
MEANS ‡ 18 DAYS				76	74	77	75	72	66	60	59	62	59	66	71	76	80	84	86	82	67	69	70	68	67	70	67	71	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 410

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	742.1	13.5	84	17.3	7.6	0.08	6.0	WSW	1	WNW	1	SSW	6	WSW	2	Cu; StCu; Nb	6-10	Cu; StCu; Nb	4- 6	Few showers in am; sky clearing in evening
2	747.0	12.6	77	17.6	4.7		8.0	SW	2	..	0	SE	4	..	0	ACu; Cu	6- 3	Cu	1- 3	Dew early, possibly fog
3	749.3	11.6	79	17.9	4.0		8.9	..	0	..	0	E	3	SE	3	StCu	1- 3		0	Dew early
4	747.8	11.6	79	19.3	3.1		8.7	..	0	..	0	N	4	WSW	2	Ci; ACu	1- 3		0	Dew early
5	742.7	12.0	71	21.1	3.8		6.5	NNW	2	N	4	WNW	11	N	2	ASt; Cu; Ci	1- 3	Ci	4- 6	Dew early
6	743.1	16.5	96	18.6	11.5	0.02	0.0	..	0	N	2	NNW	5	N	2	Cu; StCu; Nb	7-10	Cu; StCu; Nb	4- 8	Few drops rain in early am; rain in late pm
7	743.9	14.4	93	20.4	9.9	0.33	7.9	..	0	..	0	..	0	..	0	Cu	10- 4	Cu	3- 1	Heavy fog early
8	739.8	12.7	79	21.9	8.0		8.6	N	2	N	2	WNW	15	NNW	3	Cu	1- 3	Cu; Nb	4- 6	Dew early; some rain in late pm
9	739.8	16.3	81	19.9	12.0	0.12	6.3	NW	3	NNW	2	WNW	19	WNW	4	StCu; CuNb	1- 6	CuNb; Nb	7- 8	Rain in early am and in late pm
10	743.3	15.7	73	17.5	11.4	0.06	4.5	NW	2	W	14	WSW	13	SSW	2	ACu; Cu; CuNb	7- 9	Cu; Nb	7-10	
11	747.4	11.8	78	15.8	7.2	0.03	3.4	..	0	..	0	SE	2	..	0	StCu	9-10	StCu; St	10	
12	744.6	10.2	74	16.8	3.3		4.3	NW	1	NNE	2	WSW	6	SSW	4	ASt; ACu; StCu	3- 9	Cu; StCu; Nb	7-10	Dew early; rain at 16 ; sky clearing in evening
13	744.7	7.9	82	16.5	0.5	0.06	5.7	SW	2	NW	1	WSW	4	WNW	5	ASt; StCu	1- 8	StCu; Nb	7-10	Dew early; some rain in pm
14	743.3	8.5	80	13.3	4.1	0.11	8.7	SSW	3	SSE	5	SSE	10	S	2	StCu	1- 3	Cu	4- 6	Dew early
15	746.9	6.5	84	11.5	0.3		9.0	SSW	4	SSW	1	ESE	7	SSE	4	StCu; Cu	1- 6	StCu; Cu	4- 6	Frost early
16	747.4	6.4	74	13.3	-0.4		9.1	SSE	2	S	1	ESE	3	SSE	3		0		0	Frost early; thin haze over part of sky
17	748.0	7.6	73	16.8	0.4		8.9	S	3	..	0	NE	2	SSE	1		0		0	Dew early; thin haze over part of sky
18	748.4	9.3	65	19.1	-1.0		9.0	SSW	1	..	0	..	0	..	0	Cu	0- 1		0	Frost early
19	747.4	9.6	64	18.9	0.5		9.1	S	1	..	0	NE	7	..	0		0		0	Frost early; thin haze over part of sky
20	743.4	8.4	58	21.1	0.5		8.7	..	0	N	2	W	8	WSW	1		0	Cu	1- 3	Frost early
21	741.2	10.0	84	19.4	1.5		4.4	NW	1	N	1	NW	2	..	0	CiSt; CiCu; ASt;StCu	1- 3	CiSt; ASt; StCu; Nb	4-10	Mist 7h-8h; rain in pm and at night
22	746.2	11.9	89	15.9	5.7	0.23	6.1	NNE	1	..	0	SE	4	ESE	1	CiCu; ASt; Cu; StCu	7-10	CiCu; ASt; Cu	6- 1	
23	748.8	7.5	82	17.2	1.0		8.8	..	0	NNE	1	NNE	3	..	0		0		0	Dew early; thin haze over part of sky
24	746.8	9.1	82	20.5	2.0		8.8	..	0	..	0	NW	4	..	0		0		0	Dew early; thin haze over part of sky
25	745.1	8.5	64	21.2	2.0		8.5	..	0	..	0	N	10	NE	1	ASt	1- 3		0	Dew early; thin haze over part of sky
26	740.4	10.2	44	22.2	0.4		8.2	NNW	2	N	3	NNW	21	NNW	11	ASt	1- 3	CiCu; ASt; CuNb	4- 8	Rain at 20h and after
27	738.6	13.5	79	17.2	9.5	0.72	6.9	NW	4	WNW	3	W	12	NNW	2	Cu; StCu; Nb	3- 8	Cu; StCu; Nb	8- 3	Dew in early evening
28	742.1	10.4	90	18.5	5.1	0.01	2.9	..	0	N	4	NNW	11	NNW	2	StCu	6- 9	StCu	7- 8	Lightning and light dew in early evening
29	739.4	12.5	84	20.9	7.7		7.0	N	1	N	3	NW	13	N	3	ASt; Cu; StCu	4- 8	ASt; Cu; StCu	4- 8	Dew early; lightning and very light dew in early evening
30	734.2	14.5	90	17.0	10.6	0.02	3.0	N	6	NNW	11	W	15	WNW	4	ACu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Rain at 7h and later
31																				
SUM						1.79														
MEAN	744.1	11.0	78	18.5	4.6		6.9		1.5		2.1		7.5		2.1					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 411

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	188	197	204	198	213	}226{	216	237	218	204	190	186	170	173	172	172	166	162	162	173	177	185	186	192	190	0
2	✓	✓	✓	190	189	201	224	256	264	255	268	239	232	226	185	163	151	155	159	173	201	217	198	209	218	232	241	210	0
3	✓	✓	✓	241	229	229	259	273	283	306	296	338	322	277	237	225	213	217	205	213	225	220	205	225	228	237	255	248	0
4	✓	✓	✓	252	272	253	268	277	293	293	307	351	334	283	256	213	205	197	201	198	216	228	214	230	218	280	276	255	0
5	✓	✓	✓	279	293	308	334	339	391	427	469	537	484	293	212	189	177	174	169	161	161	165	⌈172⌋	200	189	198	214	272	0
6	✓			213	218	230	229	249	}237{	259	233	}214{	233	226	225	214	214	202	198	189	186	176	174	185	}125{	54	200	203	1
7	✓	✓		185	188	185	192	⌈143	107	142	134	158	236⌋	233	228	224	(198)	201	202	202	196	214	205	190	197	202	216	191	0
8	✓	✓		232	265	281	280	292	298	322	347	348	323	281	249	214	190	176	161	158	154	159	166	174	177	188	184	234	1
9	✓			}118{	192	}147{	145	147	155	159	165	174	166	147	141	141	139	143	145	149	146	149	151	157	139	146	143	150	1
10	✓	✓	✓	147	154	145	147	151	153	151	147	154	149	150	151	157	161	159	158	158	159	158	161	161	172	173	176	156	0
11	✓	✓	✓	178	198	202	232	224	241	236	228	⌈216	202⌋	182	185	189	186	188	188	185	213	214	202	225	220	240	287	211	0
12	✓	✓		289	285	295	292	304	362	397	407	413	362	289	228	200	193	186	}165{	185	170	159	173	174	177	161	151	251	1
13	✓	✓		139	138	147	161	174	197	201	217	241	241	224	206	201	197	188	182	177	176	173	166	(174)	178	190	188	186	1
14				—	—	—	—	—	—	—	—	201	185	170	162	163	(172)	172	149	⌈113	94	94	110⌋	147	172	165	158		0
15	✓	✓	✓	151	158	162	185	201	214	222	228	241	241	255	225	201	173	166	169	166	174	185	189	210	201	205	201	197	0
16	✓	✓	✓	200	204	196	212	229	239	229	230	283	320	276	241	226	204	190	197	190	201	200	210	201	213	204	224	222	0
17	✓	✓	✓	241	253	269	272	277	291	308	322	366	371	348	281	229	217	214	213	213	206	188	200	202	205	214	225	255	0
18	✓	✓	✓	236	241	261	255	259	268	268	283	312	323	306	279	271	264	255	265	⌈230	225⌋	241	232	241	244	251	273	262	0
19	✓	✓	✓	275	264	247	253	279	293	311	320	358	382	293	265	228	225	226	226	226	⌈197⌋	232	239	255	285	303	316	271	0
20	✓	✓	✓	326	335	346	375	393	415	429	438	430	383	366	344	311	243	213	204	200	206	214	225	260	271	267	264	311	0
21				265	308	319	319	346	362	419	466	545	524	351	229	}109{	(202)	192	}163{	165	170	170	188	185	216	220	206		1
22	✓	✓		186	196	234	281	314	319	247	229	216	209	188	178	174	185	188	192	178	196	184	182	173	185	201	212	210	1
23	✓	✓	✓	218	241	251	265	272	272	295	295	314	319	292	244	218	214	214	212	216	224	214	224	212	224	240	268	248	0
24	✓	✓	✓	256	255	253	255	257	281	296	319	(348)	347	338	335	268	228	212	214	214	210	218	210	225	244	245	292	263	0
25	✓	✓	✓	297	293	295	315	338	339	350	364	(386)	394	373	283	232	214	220	224	217	226	232	251	259	268	295	320	291	0
26	✓			356	386	393	373	378	399	401	389	402	360	308	268	233	192	186	186	173	186	200	210	}198	107	121	118	272	2
27	✓			}106	113	161	143	145	157	149	}158	161	161	161	162	163	161	166	172	172	177	178	174	185	188	214	240	165	2
28	✓	✓	✓	230	248	280	⌈210	214	279⌋	293	295	320	295	265	220	202	(184)	178	184	184	174	169	182	204	214	239	253	230	0
29	✓	✓	✓	265	277	285	280	277	267	269	272	272	257	228	198	186	178	174	165	174	178	189	196	214	209	192	201	225	0
30	✓			200	214	204	201	198	204	204	201	177	182	161	}138{	147	145	}146{	151	151	157	161	162	161	158	147	158	172	1
31																													
MEANS * 28 DAYS				221	232	238	244	253	266	273	278	292	287	256	227	207	194	190	189	186	189	193	194	203	201	208	225	227	
MEANS † 23 DAYS				226	234	240	250	259	274	281	289	307	301	268	235	213	199	194	192	191	193	197	199	208	214	224	236	234	
MEANS ‡ 18 DAYS				232	239	244	252	263	278	286	295	316	309	274	240	215	201	196	196	194	198	203	205	217	223	233	249	240	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 412

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	149	151	149	139	162	181	180	200	181	173	169	158	158	157	149	141	138	116	112	117	135	148	130	148	152	0
2	✓	✓	✓	152	151	172	168	213	220	240	211	210	212	210	187	161	147	145	137	151	177	169	166	166	180	191	190	180	0
3	✓	✓	✓	211	212	201	212	213	245	279	280	298	293	254	220	202	195	191	185	189	195	191	177	173	198	214	235	219	0
4	✓	✓	✓	228	243	231	241	267	273	283	293	309	302	272	250	202	201	190	189	181	190	190	201	215	200	251	280	237	0
5	✓	✓	✓	302	325	357	377	368	423	470	525	520	470	294	215	190	180	170	160	155	151	155	[148]	157	156	182	190	277	0
6	✓			168	181	173	190	199	180	212	221	168	197	201	208	207	201	193	177	170	159	155	158	160	148	168	148	181	1
7	✓	✓		140	131	135	138	[97	50	71	94	149	211]	202	190	189	182	(159)	166	169	148	158	171	177	173	168	193	153	0
8	✓	✓		237	269	263	273	288	302	317	331	334	328	297	265	235	201	187	161	148	138	137	138	149	151	157	142	227	1
9	✓			190	156	122	103	109	104	108	128	142	143	137	130	138	139	137	135	130	135	129	134	131	120	108	109	130	1
10	✓	✓	✓	118	119	108	125	120	128	126	117	128	134	133	130	138	144	141	139	127	120	106	95	92	95	98	114	121	0
11	✓	✓	✓	109	135	129	166	149	179	172	185	[171	180]	170	160	167	171	170	158	170	170	160	171	171	190	202	242	169	0
12	✓	✓		271	283	278	271	269	328	377	380	386	355	286	223	190	180	170	180	141	120	127	129	128	137	135	106	227	1
13	✓	✓		97	87	97	116	135	138	167	190	199	201	181	177	168	167	156	153	153	152	148	153	166	131	138	129	150	1
14				124	119	104	98	116	94	109	129	153	164	153	152	152	153	(152)	120	[84	60	58	85]	106	129	138	116		0
15	✓	✓	✓	112	119	126	147	167	180	189	187	210	223	241	213	195	169	159	160	157	152	147	151	160	171	167	161	169	0
16	✓	✓	✓	157	168	162	184	199	214	211	212	253	299	263	231	214	190	169	172	178	170	177	170	148	170	160	190	194	0
17	✓	✓	✓	222	232	226	243	248	268	290	284	279	347	328	276	212	191	180	166	178	181	169	180	189	181	185	195	227	0
18	✓	✓	✓	201	218	228	235	235	240	251	249	271	298	293	279	268	253	240	219	[215	229]	222	224	235	226	229	253	242	0
19	✓	✓	✓	259	251	233	225	260	271	293	295	327	356	288	267	233	220	220	208	201	[189]	208	226	242	261	263	294	254	0
20	✓	✓	✓	310	325	324	349	394	423	435	444	417	397	382	358	318	260	219	201	180	164	169	179	232	224	(224)	226	298	0
21				231	299	325	318	343	366	407	472	518	(523)	346	211	—	—	—	181	133	118	—	—	—	—	—	—		1
22	✓	✓		151	148	173	239	264	278	215	180	169	189	172	162	166	167	170	156	138	159	135	127	124	135	155	151	172	1
23	✓	✓	✓	171	181	212	220	234	242	251	271	280	283	268	222	201	188	184	173	171	155	168	170	180	190	213	232	211	0
24	✓	✓	✓	223	220	219	222	235	239	251	259	(290)	317	320	317	269	222	206	199	180	191	176	180	193	222	232	242	234	0
25	✓	✓	✓	279	263	274	262	293	309	340	326	(344)	378	356	283	236	216	220	220	211	208	208	204	222	244	288	320	271	0
26	✓			359	389	373	369	384	406	405	385	376	355	301	269	238	187	184	176	159	169	174	189	201	231	252	281	284	2
27	✓			254	224	192	156	135	116	125	108	119	139	138	138	148	145	148	146	138	128	138	141	141	141	170	212	152	2
28	✓	✓	✓	201	220	226	[168	172	261]	264	280	299	295	258	225	201	180	(169)	162	164	157	158	149	170	173	194	222	207	0
29	✓	✓	✓	232	240	241	226	222	232	250	260	252	251	225	198	186	181	172	164	160	159	159	161	178	171	160	169	202	0
30	✓			176	188	180	179	168	176	173	171	168	169	149	140	153	148	130	128	128	132	129	140	138	132	129	138	153	1
31																													
MEANS * 28 DAYS				203	208	207	212	221	236	248	252	259	268	242	218	199	185	176	169	164	161	160	162	170	175	184	197	203	
MEANS † 23 DAYS				197	204	207	215	226	245	257	263	273	282	255	226	204	190	180	173	168	165	163	165	174	179	189	201	208	
MEANS ‡ 18 DAYS				202	210	212	217	231	252	265	271	280	289	262	233	208	192	183	175	173	171	169	170	181	189	199	217	215	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 413

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				N 38	N 42	N 91	N 67	121	135	126	102	106	104	Z	Z+	Z+	N177	131	Z+	Z	Z+	Z+	Z+	Z	178	N126	Z+		2
2				Z	Z	Z	Z	Z	Z	178	Z+	123	110	−4	N136	163	119	Z+	121	94	115	112	119	87	90	99	114		2
3	✓	✓	✓	101	90	86	91	82	83	72	69	68	72	86	84	88	96	96	103	86	68	77	91	72	[115	112	107]	87	0
4	✓	✓	✓	92	[82	91	116	103]	83	92	101	87	107	101	85	104	95	82	80	104	91	90	93	72	[63	93	82]	91	0
5	✓	✓	✓	[62	82	74	65	66	68	42	59	63	67]	81	96	96	106	111	93	87	81	63	63	58	60	65	68	74	0
6	✓	✓		63	71	61	64	66	59	57	66	84	83	77	88	80	64	49	N 38	N 14	56	56	64	73	53	64	67	63	1
7	✓	✓		72	59	53	[44	48	61	47	54	80]	70	72	87	70	80	81	91	77	91	86	70	77	82	86	87	72	0
8				79	74	73	80	—	—	—	—	64	62	59	56	55	59	61	67	58	53	54	57	66	66	62	59		0
9	✓	✓	✓	59	68	62	67	77	80	68	63	67	66	65	66	70	72	67	75	74	54	51	48	47	65	73	79	66	0
10	✓	✓		74	73	77	83	78	82	72	71	66	55	63	64	74	67	58	54	53	51	N 23	60	56	46	31	30	61	1
11				53	59	N 33	N 34	58	77	92	N 42	81	N 58	Z	Z	N 19	N 58	98	88	102	97	87	87	82	83	[107	88]		2
12	✓	✓		[76	101	137	83	63	61	67]	58	71	70	72	85	92	96	85	91	96	82	89	87	82	89	89	89	84	0
13	✓	✓	✓	83	95	81	82	71	76	66	61	62	76	77	77	74	78	81	76	70	58	66	[92]	76	67	82	77	75	0
14	✓	✓	✓	76	70	71	72	76	71	61	59	62	55	51	55	70	77	81	81	76	77	82	82	85	88	74	77	72	0
15				76	71	71	80	77	67	68	74	58	N 21	64	N 72	74	80	88	169	Z	Z	Z	Z−	Z−	Z−	−230	N 25		2
16	✓	✓		−43	69	76	92	72	N 37	81	72	115	101	97	102	101	94	98	97	95	87	81	81	78	76	72	81	80	1
17				76	74	71	82	83	91	96	96	90	Z	Z	Z+	Z	Z	Z+	Z+	139	96	80	63	53	56	49	56		2
18	✓	✓	✓	49	50	56	67	67	56	56	53	53	58	65	68	69	56	77	80	77	87	68	79	79	78	75	84	67	0
19				86	100	107	Z−	141	Z	Z	N 15	N 58	95	101	105	N 78	97	N 95	N 96	N 82	90	99	96	102	90	90	91		1
20	✓	✓	✓	87	78	85	79	80	73	72	68	72	80	80	80	87	90	99	102	91	90	92	83	94	90	79	91	84	0
21	✓	✓		101	122	157	98	111	[120	319	224	152	93]	82	101	89	97	89	88	92	84	72	N 50	75	76	55	62	109	1
22				[99	87	145	111	221	179]	110	105	110	85	90	N 93	112	98	101	135	Z+	Z−	Z−	86	104	109	102	97		1
23	✓	✓		96	106	98	115	101	95	115	100	101	106	107	88	91	93	95	83	89	82	82	78	83	72	71	61	92	0
24	✓	✓	✓	72	63	71	63	57	58	49	43	49	60	86	90	85	76	106	86	92	85	72	72	82	76	66	65	72	0
25	✓	✓		77	92	86	56	115	98	89	95	72	65	N 68	N 82	81	87	95	83	82	87	82	74	80	66	53	59	80	1
26	✓	✓	✓	59	59	63	63	76	61	59	60	49	61	72	85	103	101	107	117	131	109	106	95	75	83	58	48	79	0
27	✓	✓	✓	48	51	50	53	47	48	38	47	59	48	57	63	63	74	86	83	84	78	76	88	90	89	86	89	66	0
28	✓	✓	✓	89	81	91	99	95	108	91	82	91	78	76	82	82	92	92	100	96	77	64	69	67	72	71	68	84	0
29	✓	✓	✓	68	70	65	78	82	83	68	61	62	63	63	66	76	80	82	85	84	77	75	73	67	66	67	63	72	0
30	✓	✓	✓	62	62	66	65	63	55	56	58	50	59	72	62	68	74	87	87	91	76	67	72	75	58	53	53	66	0
31	✓	✓	✓	47	43	44	53	62	61	63	56	67	62	72	73	65	72	76	76	81	[59	49	53	58	50]	59	48	60	0
MEANS * 23 DAYS				68	76	78	76	76	73	78	73	74	72	76	80	82	83	86	85	84	78	73	75	74	73	71	71	76	
MEANS † 23 DAYS				68	76	78	76	76	73	78	73	74	72	76	80	82	83	86	85	84	78	73	75	74	73	71	71	76	
MEANS ‡ 15 DAYS				70	70	70	74	74	71	64	63	64	67	74	75	80	83	89	88	88	78	73	77	73	75	74	73	74	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 414

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	735.9	11.6	66	15.8	7.5	0.23	4.6	WNW	8	WNW	3	W	14	W	4	StCu; CuNb	1- 6	StCu; Nb	4- 6	Rain in early am and during day
2	739.9	9.5	90	16.1	5.3	0.36	5.3	WSW	2	N	2	SW	11	WNW	1	ASt; Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Rain in am; dew in early evening
3	744.1	10.9	93	16.2	7.3	0.04	1.9	NNW	1	N	1	WNW	2	NNW	1	Cu; StCu; Nb	6-10	Cu; StCu; Nb	6-10	Showers at intervals
4	743.2	12.5	89	18.0	6.5	0.05	4.1	N	2	NW	1	SW	8	..	0	Cu; FrCu; Nb	10- 6	Cu	6- 3	Mist in early evening
5	744.9	10.3	96	17.9	4.3		8.9	..	0	..	0	NNE	7	ENE	2	ASt; Cu	1- 3	Cu	1- 3	Mist early in am
6	739.8	11.0	72	19.3	3.6		4.3	NNW	2	NE	6	NNW	11	N	2	CiCu; ACu; Cu; StCu	1- 3	StCu; Nb	4-10	Light rain about 17h5; dew in early am
7	744.1	12.0	91	17.6	6.6	T	3.1	..	0	..	0	SSW	1	SE	2	ASt; StCu; Nb	1-10	Cu; StCu; Nb	3-10	Dew early
8	746.5	9.7	82	18.2	7.9		7.5	SSE	2	SSE	2	ESE	14	ESE	6	ASt; Cu; StCu	4- 8	Cu	1- 3	
9	746.6	12.3	67	20.1	8.8		9.2	E	4	NE	9	NE	11	ENE	2	ACu; ASt; Cu	1- 3	ACu; ASt; Cu	1- 3	
10	743.9	12.5	56	18.6	10.3		0.0	NE	6	NE	6	NNE	8	N	5	ASt; StCu	10	ASt; StCu; CuNb	10	Light rain at 18h and later
11	742.1	16.1	84	16.6	13.9	0.04	0.7	N	3	N	12	WSW	3	SSE	1	FrCu; StCu; CuNb	10	ASt; StCu; Nb	7-10	Rain at 11h and later
12	748.0	9.6	94	15.5	3.5	0.22	6.5	..	0	..	0	SE	4	..	0	CiSt; ASt; Cu	1- 6	Cu; StCu	7- 8	
13	747.5	10.0	81	17.4	3.5		8.1	SSE	1	SE	2	E	5	SSE	2	Ci; CiSt; ASt	6- 8	ACu; ASt	3- 6	Dew early
14	742.9	10.5	76	19.8	2.2		7.5	SSW	1	..	0	NW	7	W	6	ACu; Cu	1- 3	FrCu; StCu	4- 8	Dew early
15	737.8	13.3	94	22.1	6.9		2.8	NNW	2	N	7	NW	22	SW	1	St; Nb	10	ASt; FrCu; St; Nb	10	Dew early; rain 16h and later; distant thunder and lightning
16	740.3	12.5	79	16.0	9.2	1.12	5.1	WNW	1	WSW	2	WSW	7	WNW	1	ACu; FrCu; CuNb	7- 8	ASt; StCu	6- 8	
17	740.3	12.8	86	15.0	7.5	0.01	4.0	NNW	2	N	7	WSW	13	NW	1	FrCu; CuNb; Nb	6-10	FrCu; CuNb; Nb	7-10	Occasional hard showers
18	744.1	8.8	90	16.8	4.2	0.34	5.5	NNW	2	N	4	NNW	11	NNW	6	ASt; ACu; Cu	1- 6	CiCu; ACu; ASt	1- 6	
19	741.1	12.9	78	14.4	7.9	0.12	4.1	NNW	8	W	17	WSW	17	W	2	ACu; StCu; Nb	6-10	ACu; StCu; Nb	6- 8	Rain before 9h, and later
20	745.0	10.0	93	16.2	4.5	0.04	5.0	..	0	N	1	NW	6	NW	1	CiSt; ACu; ASt	1- 5	CiSt; ACu; ASt	1- 3	Light mist early
21	742.6	11.5	97	13.4	7.5	0.06	4.4	NNW	4	N	3	WNW	10	N	2	ACu; Cu; FrCu; Nb	4-10	ACu; Cu; FrCu; Nb	4- 6	Fog early; few drops rain in pm
22	739.3	13.7	93	17.2	10.5	0.07	6.3	NNW	2	NNW	4	W	16	SW	1	CiCu; ACu; Nb	6-10	CiCu; ACu; Nb	6- 8	Heavy fog early; light rains at intervals
23	745.2	11.8	75	16.7	6.5	0.23	6.4	NNW	1	W	2	WSW	8	WSW	1	ASt; CuNb	3- 6	Ci; StCu; Cu	3- 6	Light rains in am
24	746.3	11.4	93	18.0	3.5	0.03	5.8	..	0	..	0	W	7	WNW	2	FrCu; StCu; Nb	2- 8	ASt; Cu; CuNb	7- 8	Light rain in pm
25	745.5	13.0	88	17.4	7.1	0.05	3.7	W	3	NNW	1	WNW	3	WSW	2	ASt; StCu; Nb	7- 9	Cu; StCu; Nb	7- 8	Light rains
26	745.4	10.5	92	17.6	5.7	0.04	4.4	NW	1	N	2	WSW	5	..	0	CiSt; ASt; StCu; Cu	7- 8	ASt; StCu; CuNb	4- 8	Fog 7h-8h; dew in early evening
27	745.1	11.8	91	16.6	5.1		1.3	..	0	..	0	SSE	4	SSW	4	CiSt; ASt; StCu; Nb	7-10	CiSt; ASt; StCu; Nb	7-10	Clear sky at night; dew in early am
28	747.1	9.7	80	15.9	2.5		9.5	SSW	4	SE	1	SE	7	SE	3		0	Cu	1- 3	Dew early; thin sky-haze in am; cloudless at night, with dew
29	747.7	10.1	76	16.6	3.5		9.5	SE	2	ESE	3	ESE	9	SE	4		0	ACu	1- 3	Dew early; clear at night
30	747.1	11.0	61	19.2	3.5		9.3	SSE	4	SE	3	ENE	8	SE	4	ACu; ASt	1- 3	CiSt; CiCu; ASt	4- 8	
31	743.4	15.5	45	20.6	9.2		8.3	E	1	NE	6	NE	10	..	0	CiCu; ACu; Cu	4- 6	CiCu; ACu	1- 3	
SUM						3.05														
MEAN	743.6	11.6	82	17.4	6.3		5.4	2.2		3.5		8.7		2.2						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 415

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			146	143	147	146	157	162	162	174	186	184	169	168	158	162	165	172	145	159	162	172	158	172	172	162	163	2
2	✓			159	147	122	153	182	106	190	185	210	194	161	153	170	162	158	165	173	169	174	178	201	198	188	189	170	2
3	✓	✓	✓	202	220	239	253	263	257	260	268	265	251	218	200	178	184	188	198	190	185	188	196	198	[137	151	178]	211	0
4	✓	✓	✓	216	[239	174	159	197]	241	241	209	226	198	188	185	172	170	173	174	184	190	188	201	216	[205	(151)	141]	193	0
5	✓	✓	✓	[244	192	213	229	214	225	306	285	298	314]	295	222	212	200	(189)	201	217	214	214	[170]	241	279	[279	285]	239	0
6	✓	✓		281	281	291	302	297	310	311	296	239	241	239	230	225	200	188	200	214	230	188	200	216	210	214	204	242	1
7	✓	✓		210	225	240	[257	268	206	259	241	268]	255	228	201	198	186	188	174	173	178	186	202	218	205	213	222	217	0
8	✓			232	253	253	252	263	269	289	275	276	296	298	304	307	293	281	285	293	292	268	264	267	281	281	291	278	0
9	✓	✓	✓	284	292	298	287	280	279	277	268	255	244	229	224	221	224	228	218	216	226	236	259	260	259	251	247	253	0
10	✓	✓		243	241	232	230	230	233	241	236	243	240	228	228	216	213	213	216	228	240	228	221	222	217	241	243	230	1
11	✓			216	233	240	244	264	249	205	184	176	161	138	153	166	173	162	153	162	170	174	177	188	186	[147	158]	187	2
12	✓	✓		[189	146	94	165	264	268	268]	295	[277	241]	268	224	206	(213)	197	198	190	204	200	198	214	217	232	224	216	0
13	✓	✓	✓	224	222	240	244	284	310	322	347	362	287	265	240	240	240	228	228	228	237	232	[204]	245	(245	251)	267	258	0
14	✓	✓	✓	268	268	269	281	268	276	296	308	339	348	348	335	279	224	212	206	202	202	193	202	202	201	218	228	257	0
15	✓			255	272	259	249	255	268	253	239	228	200	173	153	138	138	131	150	121	146	142	94	79	131	111	162	181	2
16	✓	✓		146	158	162	161	161	166	172	173	177	173	174	170	168	161	163	166	166	174	188	197	214	201	222	236	177	1
17	✓			226	241	260	232	212	214	214	216	213	146	150	174	131	154	153	155	162	174	174	178	193	202	228	245	194	2
18	✓	✓	✓	284	308	289	268	271	298	319	315	310	268	216	204	188	176	174	173	166	170	161	155	174	185	198	196	228	0
19	✓			186	185	177	178	173	166	147	145	149	141	147	151	173	(153)	161	162	165	161	172	177	177	[178	186	178]	166	1
20	✓	✓	✓	202	213	228	251	260	268	[240]	284	298	247	229	201	188	182	176	174	172	166	185	201	201	213	224	212	217	0
21	✓	✓		198	163	155	177	177	[146	62	80	134	157]	200	174	169	166	168	173	173	180	185	185	198	181	218	214	168	1
22	✓			[169	201	134	157	98	115]	188	198	202	201	173	161	162	161	159	159	153	121	134	163	166	165	162	174	162	1
23	✓	✓		184	186	200	201	193	197	173	193	197	174	173	176	178	177	184	176	178	178	200	209	202	214	224	241	192	0
24	✓	✓	✓	240	259	273	288	334	332	387	414	415	326	228	192	176	174	173	173	169	173	180	188	192	202	216	210	246	0
25	✓	✓		201	200	197	169	182	193	200	162	241	247	205	190	189	176	162	172	190	186	180	189	192	216	236	229	196	1
26	✓	✓	✓	249	265	268	271	[256	296]	348	[336]	375	331	260	200	182	(174)	176	174	174	177	186	192	201	228	259	287	244	0
27	✓	✓	✓	292	310	336	[334	387	389	401]	394	(368)	363	296	228	206	184	181	174	174	182	186	174	169	169	170	173	260	0
28	✓	✓	✓	165	176	180	184	189	170	185	201	201	200	188	170	147	134	134	139	146	159	166	170	188	188	198	201	174	0
29	✓	✓	✓	204	214	220	228	252	267	289	304	314	311	285	233	194	186	188	197	214	204	192	193	212	214	209	220	231	0
30	✓	✓	✓	216	230	251	260	269	297	304	311	312	291	247	239	224	224	212	206	186	201	204	189	213	228	241	263	242	0
31	✓	✓	✓	280	300	314	308	295	285	277	276	265	252	222	208	210	214	214	224	225	241	[240]	245	244	268	268	295	257	0
MEANS * 31 DAYS				220	225	224	230	239	241	251	252	259	241	221	203	193	186	183	185	185	190	191	192	202	206	212	219	215	
MEANS † 23 DAYS				227	231	233	239	252	257	267	269	277	259	236	212	199	191	187	188	190	196	196	197	210	212	221	227	224	
MEANS ‡ 15 DAYS				238	247	253	256	268	279	297	301	307	282	248	219	201	193	190	191	191	195	197	196	210	215	219	227	234	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 416

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			157	148	135	138	125	120	119	127	147	152	103	95	138	146	148	144	96	118	103	60	148	121	113	82	124	2
2	✓			86	122	84	107	85	114	59	25	137	165	159	140	134	133	138	141	138	116	99	110	144	143	128	117	118	2
3	✓	✓	✓	126	158	191	174	207	203	191	199	222	228	201	191	160	159	155	148	152	148	152	148	130	92	115	147	167	0
4	✓	✓	✓	189	184	138	130	149	184	181	168	154	157	159	158	147	148	148	145	139	116	117	138	173	159	106	114	150	0
5	✓	✓	✓	194	138	180	215	222	232	274	262	269	282	271	(199)	185	170	(172)	161	188	175	180	139	208	236	233	242	210	0
6	✓	✓		280	264	290	281	271	290	294	273	223	239	243	226	224	198	193	205	230	231	201	195	185	191	188	188	233	1
7	✓	✓		191	193	204	199	239	172	199	178	235	210	201	179	168	147	149	138	143	138	146	174	178	168	159	179	179	0
8	✓			193	204	204	202	215	233	248	242	250	280	308	307	309	299	283	282	290	283	260	254	254	269	273	279	259	0
9	✓	✓	✓	275	275	286	278	263	261	250	241	242	239	225	222	222	220	222	203	195	208	219	233	241	222	218	211	236	0
10	✓	✓		211	207	215	200	201	203	208	212	214	225	224	234	220	211	211	212	212	222	231	201	211	212	243	249	216	1
11	✓			206	214	238	243	250	241	200	190	171	157	160	203	170	148	127	126	120	94	114	116	105	100	84	124	163	2
12	✓	✓		139	94	72	149	212	207	248	269	243	252	245	219	193	202	(184)	180	168	147	129	141	155	152	162	179	181	0
13	✓	✓	✓	175	174	187	216	241	250	283	300	336	265	245	224	223	226	213	219	212	216	219	157	200	222	217	231	227	0
14	✓	✓	✓	236	251	251	241	248	257	252	279	271	320	336	319	274	231	212	203	200	181	173	176	170	168	184	190	234	0
15	✓			220	254	233	224	240	241	230	226	228	210	174	164	152	149	148	141	166	170	147	190	250	236	214	159	198	2
16	✓	✓		168	134	119	116	116	116	114	110	119	138	141	139	138	148	147	139	147	117	127	138	161	159	186	194	139	1
17	✓			71	195	222	204	191	180	180	180	182	113	137	105	152	71	109	90	125	114	115	126	161	171	182	201	149	2
18	✓	✓	✓	232	272	269	241	242	274	280	286	289	255	204	197	184	172	169	164	155	149	152	149	148	159	170	167	207	0
19	✓			159	152	158	138	148	138	130	148	139	126	132	137	142	146	146	138	139	126	106	105	119	91	131	127	134	1
20	✓	✓	✓	137	169	171	208	212	214	220	258	251	221	222	199	180	180	177	166	161	148	133	153	144	162	191	190	186	0
21	✓	✓		173	151	129	149	148	113	36	60	114	148	184	162	170	168	168	156	147	146	147	161	153	137	173	184	145	1
22	✓			145	161	104	140	75	90	158	170	171	182	161	159	149	156	147	138	114	181	179	119	100	105	101	104	138	1
23	✓	✓		124	126	122	126	138	130	94	148	148	138	139	153	158	161	161	147	146	137	106	147	142	172	181	205	144	0
24	✓	✓	✓	178	215	250	233	263	302	367	388	368	303	219	190	185	170	159	148	138	132	138	148	155	171	194	190	217	0
25	✓	✓		172	167	159	153	103	127	144	137	221	230	187	159	160	164	153	146	146	138	126	145	139	166	176	201	159	1
26	✓	✓	✓	229	233	246	231	202	241	286	315	338	309	241	179	158	148	(147)	135	138	119	89	126	149	154	212	233	202	0
27	✓	✓	✓	252	272	279	287	337	309	329	326	(319)	319	271	208	201	169	162	153	148	138	138	144	139	138	138	134	221	0
28	✓	✓	✓	127	139	142	147	148	129	145	142	162	192	189	172	148	133	131	130	140	146	146	134	148	151	159	169	149	0
29	✓	✓	✓	169	172	169	176	201	224	252	257	299	294	281	238	187	182	181	188	202	192	169	169	174	191	192	200	207	0
30	✓	✓	✓	200	199	222	233	247	275	276	290	308	283	242	243	224	216	201	193	172	185	180	174	191	220	242	246	228	0
31	✓	✓	✓	271	279	278	271	262	261	247	249	242	244	208	195	200	201	202	208	203	216	206	215	200	250	249	288	235	0
MEANS * 31 DAYS				183	191	192	195	200	204	209	215	226	222	207	191	182	173	170	165	164	160	153	154	167	171	178	185	186	
MEANS † 23 DAYS				193	194	199	202	212	216	225	232	243	239	221	200	187	179	175	170	169	163	158	161	169	176	186	197	194	
MEANS ‡ 15 DAYS				199	209	217	219	230	241	256	264	271	261	234	209	192	182	177	172	170	165	161	160	171	180	188	197	206	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 417

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				42	48	54	51	N 87	133	79	108	143	98	56	66	63	71	98	Z	Z	Z	110	117	104	105	114	Z		2
2				Z	N163	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	N 76	115	Z+	Z+		2
3				N 80	Z+	Z	123	129	119	119	120	109	103	88	94	87	94	103	104	105	108	102	103	92	84	72	68		1
4	✓	✓		63	74	84	80	99	90	85	84	84	86	90	46	67	83	85	N 57	101	93	96	82	81	79	82	71	82	1
5				73	72	85	98	99	72	62	75	99	86	91	93	89	94	93	N 78	—	—	—	—	—	—	87	88		1
6	✓	✓	✓	93	107	102	127	88	86	71	75	79	79	85	88	82	90	92	104	119	112	94	70	76	60	80	65	88	0
7				N 17	-142	Z-	Z-	—	—	—	—	—	—	Z	Z	Z	23	N 21	-3	N 6	25	70	72	N 58	Z-	Z-	Z-		2
8				-14	-36	54	83	96	81	70	81	68	76	60	63	72	80	81	81	79	81	81	76	82	—	—	71		2
9	✓	✓		78	90	96	113	124	N101	-2	119	N113	93	99	93	N 72	96	105	124	107	108	104	100	101	94	90	90	96	1
10	✓			85	94	95	83	75	66	81	65	76	84	81	73	90	108	99	105	103	102	98	91	96	76	84	95	88	0
11	✓			119	138	152	149	146	128	106	104	94	99	94	94	98	95	99	103	100	90	61	64	70	67	72	90	101	0
12				75	79	86	77	82	82	73	61	61	63	66	68	81	95	97	102	98	80	—	—	—	—	—	85		0
13	✓	✓	✓	99	101	126	129	114	105	94	89	71	91	78	76	78	82	86	96	94	82	68	67	70	68	71	70	88	0
14	✓	✓	✓	66	64	67	94	88	72	75	77	81	80	81	82	96	88	103	105	104	90	84	71	77	67	60	71	81	0
15	✓	✓	✓	65	61	68	72	76	72	64	60	66	79	85	96	104	112	109	115	132	111	70	71	76	77	84	81	84	0
16	✓	✓		71	67	68	72	75	72	66	72	77	76	86	86	91	104	109	118	N115	114	104	101	82	62	60	N 56	84	1
17				77	66	Z-	-157	219	Z	-34	-35	-27	-28	N 57	-30	N 28	79	N 86	N 84	138	141	128	112	100	109	119	115		2
18	✓	✓	✓	113	125	114	124	120	124	111	101	108	107	107	104	102	100	114	115	119	122	91	99	128	107	115	109	112	0
19	✓	✓	✓	105	109	115	114	114	109	101	90	84	80	82	79	83	79	91	95	100	81	75	73	84	119	129	109	96	0
20	✓	✓	✓	94	72	79	82	83	72	74	82	85	77	81	85	88	93	94	100	118	110	101	91	88	86	86	90	88	0
21	✓	✓		88	91	78	61	70	59	61	83	88	91	84	87	86	N 61	N 92	104	85	113	100	102	90	87	85	81	84	1
22	✓	✓	✓	83	88	80	96	95	95	78	79	84	84	77	76	74	82	96	96	97	99	90	90	93	87	95	104	88	0
23	✓	✓	✓	115	99	105	120	130	108	99	94	69	58	70	81	72	76	75	82	86	85	77	83	83	70	79	66	87	0
24	✓			66	66	89	72	72	57	56	57	54	57	84	85	96	80	88	76	95	100	90	76	55	44	51	66	72	0
25	✓	✓		68	70	102	84	83	84	79	80	68	48	66	62	62	N 41	N 66	N 37	N 48	N 65	82	74	68	82	109	104	72	1
26				75	77	77	70	N 80	N 57	73	68	74	57	75	61	76	72	89	93	85	71	N 2	-34	-46	-46	-100	Z		2
27				Z	Z-	Z	Z	Z	N 56	92	109	94	77	72	76	85	82	79	N 61	N 71	78	69	66	77	62	90	96		2
28				94	109	118	132	99	117	105	115	80	94	Z	105	87	88	94	N134	Z	110	133	95	77	98	99	109		1
29	✓	✓	✓	104	98	117	137	132	122	124	133	107	96	91	85	94	95	112	119	113	114	112	117	108	96	85	81	108	0
30	✓	✓	✓	104	88	111	121	136	120	91	108	92	74	61	74	71	72	74	75	65	61	85	86	84	88	76	81	87	0
31	✓	✓	✓	79	76	71	72	75	58	52	54	61	68	61	70	80	81	90	87	112	93	89	88	85	94	87	68	77	0
MEANS * 20 DAYS				89	89	96	100	100	90	78	85	82	80	82	81	84	86	94	96	101	97	89	85	85	80	84	82	88	
MEANS † 17 DAYS				89	87	93	100	100	91	78	87	83	80	81	81	82	84	94	96	101	97	90	86	87	84	87	82	88	
MEANS ‡ 12 DAYS				93	91	96	107	104	95	86	87	82	81	80	83	85	88	95	99	105	97	86	84	88	85	87	83	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 418

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL. m/h	DIR.	VEL. m/h	DIR.	VEL. m/h	DIR.	VEL. m/h	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr													
1	736.8	12.6	95	19.4	5.2		0.2	NNW	2	N	5	NNW	20	W	11	Cu; StCu; Nb	10	Cu; StCu; Nb	10	Thick fog until 11h; thundershowers in pm; rain at night
2	732.8	8.0	86	10.2	5.6	0.74	4.3	WSW	17	WSW	11	WSW	14	W	6	ASt; CuNb; Nb	6-10	ASt; CuNb; Nb	7-10	Hard showers at intervals; thunderstorm and hail at 14h
3	738.2	12.3	76	14.8	5.5	0.42	4.1	WSW	7	WSW	7	SW	12	..	0	Cu; FrCu; StCu	6- 8	Cu; FrCu; StCu	7- 8	Rain in early hours and at intervals during day
4	742.4	11.8	79	15.8	5.1	T	4.0	WNW	1	NW	2	W	5	..	0	Cu; StCu; CuNb	7- 4	Cu; StCu; CuNb	4- 6	Dew early; occasional light showers
5	743.6	11.9	79	15.7	5.5	0.07	5.9	..	0	SSW	3	SSW	3	ESE	3	Cu; StCu	3- 8	StCu; CuNb; Nb	7-10	Dew early; showers in pm
6	745.5	10.3	70	14.3	3.5	0.08	6.8	..	0	E	4	ENE	12	E	2	CiSt; ACu; StCu	7-10	StCu; CuNb	7-10	Few drops rain in pm and evening
7	736.1	9.5	99	11.6	7.9	1.33	0.0	NE	6	E	10	E	8	SE	7	CuNb; Nb	10	CuNb; Nb	10	Rain from early hours until late pm
8	735.6	9.5	96	14.8	8.5	0.67	1.3	S	10	SSW	8	SW	10	W	1	Cu; CuNb; Nb	10	Cu; FrCu; Nb	6-10	Rain in early hours and previous night
9	740.9	12.0	84	15.9	7.6	0.16	6.5	NW	2	WSW	9	SW	10	WSW	2	ACu; StCu; Nb	6-10	ACu; Cu; StCu; Nb	6-10	Light rains
10	745.9	12.5	74	17.4	5.7	T	4.0	WSW	1	SW	1	SSW	6	SW	1	Cu; StCu; St	6-10	ACu; Cu; StCu	4- 6	
11	751.8	9.1	79	14.2	3.9		9.6	S	2	SE	5	ESE	8	SSE	4	ASt	0- 1		0	Dew early; thin sky-haze
12	752.6	10.5	71	16.1	1.4		9.7	S	2	..	0	ESE	4	SSE	4		0		0	Dew early; some thin sky-haze
13	750.6	11.5	72	17.9	2.2		9.8	SSE	3	SE	2	E	7	SE	5	Ci	1- 6	Ci; CiSt	6- 8	Dew early
14	748.6	13.0	64	20.3	3.5		8.4	ESE	1	NE	9	NE	8	NE	3	CiSt	1- 8	Ci; CiSt; CiCu	7- 8	
15	747.6	13.0	68	21.6	7.1		3.5	N	1	..	0	NNE	10	NE	1	CiCu; CiSt; ASt; StCu	7-10	CiCu; ACu; ASt	6- 1	
16	745.2	16.7	67	25.2	5.2		8.6	NNW	2	NNE	3	N	15	NNW	8	CiSt; ACu	1- 3	ACu; ASt; StCu; Nb	4- 8	Dew early; few drops rain in pm; rain at night
17	744.5	13.5	91	13.4	12.3	0.50	0.9	WNW	9	NW	1	WSW	2	..	0	CuNb; Nb	10	CuNb; Nb; StCu	10- 4	Rain in am; dew in early evening
18	749.1	9.9	81	13.8	4.6	0.14	8.3	..	0	ESW	2	SE	5	SSE	1	FrCu; StCu	1- 6	FrCu; StCu	6- 1	Clear sky at night
19	749.1	10.0	66	16.2	0.4		9.8	S	3	SE	1	ENE	1	SE	3		0	ASt	0- 1	Frost early; thin haze in part of sky
20	745.8	10.8	59	18.3	0.6		10.1	SW	3	..	0	SSW	2	WSW	3	CiSt	1- 3	CiSt; ACu	1- 3	Frost early; dew in early evening
21	745.1	12.9	77	15.6	5.6		4.3	NW	1	SSW	2	S	8	SSW	4	CiCu; ACu; Cu; StCu	7- 8	Cu; StCu; CuNb	7- 8	Dew early; light showers in pm; clearing in evening
22	748.8	9.5	60	13.1	2.8	0.02	9.8	SSE	4	ESE	12	ESE	11	SSE	4	ASt; StCu	1- 6	ASt; StCu	6- 1	
23	744.6	8.7	68	16.9	0.2		9.9	S	4	SSE	4	ESE	2	SSW	3		0		0	Dew early; thin haze in sky
24	741.2	11.0	77	17.9	0.8		3.1	WSW	2	N	1	WNW	13	N	1	FrCu; StCu	7- 9	Cu; StCu	7- 8	Light shower about 23h
25	739.5	11.0	91	17.0	6.8	0.04	0.0	NNE	2	N	2	NNW	9	SE	11	ACu; Cu; StCu; Nb	9-10	Cu; StCu; Nb	9-10	Showers at intervals
26	739.3	10.5	82	19.2	7.2	0.20	2.1	ESE	6	ESE	6	NNE	7	NNW	1	Cu; StCu	7- 8	Cu; Nb	9-10	Raining steadily in evening
27	730.5	15.0	80	18.8	10.3	1.07	5.2	ENE	4	N	5	SW	17	SSW	8	Cu; Nb	7-10	Cu; Nb	8- 4	Clearing in evening
28	741.3	13.5	77	15.6	8.3	0.03	5.0	WSW	7	WSW	4	SW	13	W	4	Cu; FrCu; Nb	6-10	Cu; FrCu; Nb	7- 8	Light rain in am; showers in pm
29	742.4	13.8	78	17.2	6.6	0.03	5.6	WSW	4	W	10	SW	15	SW	2	Cu; FrCu; Nb	6-10	ACu; Cu; FrCu	3- 6	Few drops rain
30	748.3	11.2	95	14.7	6.5	0.06	1.0	SSE	1	..	0	S	2	SSW	2	FrCu; StCu	6-10	Cu; StCu	6- 1	
31	748.6	13.0	77	18.1	5.9	T	5.3	..	0	..	0	S	2	S	2	Cu; StCu	6-10	CiSt; StCu	6- 1	
SUM						5.56														
MEAN	743.6	11.6	77	16.5	5.2		5.4		3.5		4.2		8.4		3.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 419

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			318	311	301	314	⌈251	216	229	193	151	147	178⌋	203	203	178	≷134	100	101	92≶	137	138	152	155	141	≷145≶	187	2
2	✓			≷123	149	138	116	118	148	156	134	151	149	123	115	151	(175)	134	151	149	155	160	142	169	178	169	163≶	146	2
3	✓			≷173	160	169≶	173	174	173	170	163	164	164	169	167	164	167	170	170	174	174	177	184	201	203	210	229	177	1
4	✓	✓		222	223	234	249	245	241	242	237	204	190	196	186	197	193	184	≷178≶	188	189	190	205	207	218	219	216	211	1
5	✓			230	247	242	247	255	269	275	260	221	207	195	192	190	181	188	≷178≶	173	179	200	197	203	205	205	216	215	1
6	✓	✓	✓	218	219	223	230	249	266	300	314	(288)	264	255	230	218	207	195	192	177	≷163	159	175	186	189≶	203	204	222	0
7	✓			196	166	≷134	77	74	79	123	93	59	107	214	237	222	223	178	205	197≶	218	200	186	178	≷108	86	134≶	154	2
8	✓			≷225	222≶	242	222	227	251	222	219	234	219	232	232	233	225	223	219	218	214	207	208	208	192	192	192	220	2
9	✓	✓		195	185	193	192	178	≷178	151≶	151	155	160	169	169	166	(173)	164	174	175	169	177	181	193	195	192	193	176	1
10				208	196	207	236	243	258	234	245	⌈222⌋	205	196	186	182	178	169	169	166	167	175	181	192	200	190	173		0
11				137	132	122	129	147	160	178	193	196	192	⌈166⌋	179	178	177	167	166	174	170	189	190	182	186	184	167		0
12				182	195	197	208	218	227	247	260	259	248	237	232	210	193	173	179	173	175	—	—	—	—	—	192		0
13	✓	✓	✓	178	178	167	174	190	197	207	245	258	223	233	230	225	234	223	200	219	229	230	215	214	219	234	248	215	0
14	✓	✓	✓	271	288	301	286	289	292	275	260	251	247	229	219	204	204	208	204	201	208	⌈197	214	227⌋	249	266	271	244	0
15	✓	✓	✓	284	288	293	296	299	295	303	316	(288)	262	221	193	179	164	153	152	149	174	195	⌈184⌋	207	196	195	223	230	0
16	✓	✓		242	252	249	259	260	260	277	295	282	263	247	233	192	(178	164	164)	155	164	164	170	178	174	166	173	215	1
17	✓			178	164	≷107	141	178	68	164	166	159	138	152	138	151≶	164	164	159	163	163	164	173	178	193	184	207	159	2
18	✓	✓	✓	204	193	197	204	193	195	214	221	207	188	170	159	160	149	158	158	151	141	152	155	125	149	151	156	173	0
19	✓	✓	✓	170	171	164	164	167	174	185	204	222	221	195	188	182	184	186	192	179	182	179	184	171	155	140	160	180	0
20	✓	✓	✓	193	223	227	229	223	230	227	225	234	248	227	207	192	185	181	178	169	164	167	182	179	203	218	230	206	0
21	✓	✓		204	201	230	223	205	214	207	193	203	197	186	178	166	153	153	159	136	136	149	141	167	175	178	178	180	1
22	✓	✓	✓	178	178	205	192	193	205	205	204	208	179	190	184	179	178	164	163	163	162	159	151	152	159	149	141	177	0
23	✓	✓	✓	147	166	175	177	177	181	197	219	273	288	247	177	199	(204)	186	188	175	177	179	188	204	216	215	230	199	0
24				258	282	262	314	(327)	—	—	—	—	301	223	189	174	174	178	169	167	177	189	—	—	≷230	230≶	205		0
25	✓	✓		219	227	≷203≶	238	245	237	243	255	252	248	216	216	184	188	≷156	155≶	174	166	178	173	163	164	178	175	202	1
26	✓			149	156	178	192	207	212	236	≷258	192	227	207	221	222≶	182	181	167	163	≷178	125	179	175	159	104	71≶	181	2
27	✓			≷123	84	133	140	101≶	196	188	182	182	179	192	177	170	184	192	197	199	199	190	189	178	173	166	162	170	2
28	✓			160	164	166	169	169	178	178	173	166	164	≷151≶	159	152	160	156	159	≷162≶	169	166	178	173	178	164	170	166	1
29	✓	✓	✓	170	184	175	170	177	169	184	223	200	163	164	160	156	159	159	164	166	167	163	160	166	178	190	203	174	0
30	✓	✓	✓	195	205	156	164	151	159	175	173	164	178	175	175	178	(174)	175	181	188	190	178	188	190	195	207	203	180	0
31	✓	✓	✓	205	211	227	236	236	269	277	274	232	211	192	186	188	186	177	177	178	177	177	178	190	195	201	205	208	0
MEANS * 27 DAYS				199	201	201	203	201	206	215	217	207	201	197	190	186	183	174	173	172	174	175	178	183	184	182	189	191	
MEANS † 17 DAYS				206	211	213	217	216	221	228	236	231	219	207	194	186	183	176	175	173	174	176	179	183	190	194	201	200	
MEANS ‡ 12 DAYS				201	209	209	210	212	219	229	240	235	223	208	192	188	186	180	179	176	178	178	181	184	192	197	206	200	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 420

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			310	312	292	302	228	196	237	191	149	144	169	195	195	173	142	152	163	173	141	131	133	131	122	120	188	2
2	✓			122	117	110	131	141	118	97	131	99	112	86	130	149	108	135	129	130	132	146	151	145	146	157	160	128	2
3	✓			145	149	143	131	122	124	132	124	135	145	151	152	152	152	146	142	138	135	131	120	120	142	166	216	142	1
4	✓	✓		159	184	184	203	188	195	191	189	181	177	168	164	169	173	172	172	151	142	142	139	130	152	156	164	169	1
5	✓			177	198	182	163	180	196	199	168	168	174	168	173	172	164	164	165	163	162	166	174	172	142	152	163	171	1
6	✓	✓	✓	162	142	131	122	152	174	236	276	236	253	244	225	214	196	184	174	152	143	141	141	161	181	181	193	184	0
7	✓			203	224	212	236	277	217	278	285	287	288	289	266	278	239	186	226	216	227	194	177	184	245	286	286	242	2
8	✓			256	274	240	209	202	234	211	202	222	208	216	208	204	203	195	191	184	176	157	157	157	170	159	163	200	2
9	✓	✓		152	144	144	135	135	152	159	124	124	131	143	152	152	156	152	142	137	123	110	122	131	133	134	142	139	1
10				152	139	139	145	166	188	172	183	173	168	163	166	156	153	143	138	—	—	—	—	102	118	—	128		0
11				—	—	69	—	—	—	—	—	175	172	153	166	164	166	163	152	159	152	149	135	141	139	132	124		0
12				135	141	153	151	134	183	184	207	207	220	208	201	181	163	149	155	151	145	141	153	166	154	143	160		0
13	✓	✓	✓	147	131	120	128	148	164	169	206	249	214	224	222	212	216	212	188	211	193	191	188	188	190	211	230	190	0
14	✓	✓	✓	227	260	246	223	237	250	238	227	226	239	222	205	190	202	199	187	180	170	164	164	190	211	228	228	213	0
15	✓	✓	✓	249	269	277	272	278	276	266	271	254	245	223	173	176	143	144	134	127	134	176	154	176	186	176	199	207	0
16	✓	✓		245	257	249	257	258	268	281	267	253	266	256	242	194	176	176	153	164	153	154	153	176	169	176	166	213	1
17	✓			170	160	202	211	140	212	199	199	188	164	142	164	155	136	136	130	117	113	96	78	79	79	117	140	147	2
18	✓	✓	✓	146	100	131	134	127	118	130	144	176	176	157	161	143	134	140	117	108	115	117	93	71	96	105	117	127	0
19	✓	✓	✓	131	140	127	129	134	142	154	176	202	190	157	160	163	164	153	141	117	141	137	151	134	107	108	140	146	0
20	✓	✓	✓	168	211	211	206	203	214	203	190	202	218	203	189	177	148	155	162	153	141	133	141	142	153	171	189	178	0
21	✓	✓		174	164	188	183	164	166	146	153	167	168	164	155	153	142	134	138	117	115	117	109	127	134	122	136	147	1
22	✓	✓	✓	131	141	176	177	187	187	181	197	199	179	186	187	190	188	164	161	161	153	127	127	128	128	117	117	162	0
23	✓	✓	✓	118	141	142	140	133	149	167	191	256	297	236	164	190	188	191	164	155	142	149	155	169	182	179	198	175	0
24				227	251	211	248	285	332	345	351	341	293	219	189	175	179	173	166	160	154	151	164	187	199	183	166		0
25	✓	✓		181	175	164	199	211	196	222	238	242	253	222	215	188	196	173	163	164	151	144	154	163	163	166	157	188	1
26	✓			144	153	176	189	206	222	227	249	189	240	213	228	218	188	177	164	143	166	141	189	202	214	210	235	195	2
27	✓			211	297	243	251	183	81	175	153	156	168	180	171	169	191	195	196	197	188	173	164	156	143	130	127	183	2
28	✓			136	134	135	134	134	117	120	125	144	141	149	155	147	150	144	140	74	140	127	140	142	130	128	107	133	1
29	✓	✓	✓	130	144	130	112	122	129	129	141	154	149	150	144	153	155	140	141	141	131	129	109	104	108	117	117	132	0
30	✓	✓	✓	117	129	114	79	79	89	94	110	112	143	164	161	167	162	164	162	164	162	146	138	146	138	128	141	134	0
31	✓	✓	✓	160	176	193	176	183	214	222	203	187	170	157	158	160	169	168	153	151	117	133	128	142	141	143	163	165	0
MEANS * 27 DAYS				173	182	180	179	176	181	188	190	191	195	187	182	179	171	164	159	151	150	144	142	147	152	157	167	170	
MEANS † 17 DAYS				165	171	172	169	173	181	188	194	201	204	193	181	176	171	166	156	150	143	142	139	146	151	154	165	169	
MEANS ‡ 12 DAYS				157	165	166	158	165	176	182	194	204	206	194	179	178	172	168	157	152	145	145	141	146	152	155	169	168	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 421

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY .

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	69	64	66	83	84	83	84	79	64	66	69	67	71	71	84	84	88	78	76	70	57	57	81	65	73	0
2	✓	✓		64	61	57	47	55	57	51	57	71	74	83	89	81	85	N 27	N 79	94	84	82	71	71	60	67	61	68	1
3	✓	✓	✓	66	74	76	79	84	82	80	78	86	74	74	70	74	93	67	79	81	94	85	88	101	97	86	92	82	0
4	✓	✓	✓	88	76	79	81	83	74	62	64	75	82	83	82	85	94	100	93	87	84	63	67	77	65	79	87	80	0
5	✓	✓	✓	79	96	120	132	135	121	101	74	76	73	73	70	71	71	78	70	72	65	48	51	65	58	76	71	81	0
6	✓	✓	✓	65	64	75	80	82	72	57	55	55	47	51	56	73	63	81	66	71	61	53	62	61	64	64	61	64	0
7	✓	✓	✓	69	65	56	58	52	43	42	44	54	59	63	72	68	69	70	70	77	78	57	47	43	39	34	37	57	0
8				47	47	52	59	60	60	56	57	76	89	85	76	Z	Z	Z	145	93	94	90	Z	N 25	N 50	106	109		1
9				102	N136	108	111	105	Z	Z	69	N 48	N 1	N 42	Z	99	81	70	77	85	92	89	93	78	83	77	78		2
10	✓	✓	✓	71	69	79	70	74	57	51	60	51	59	61	49	47	59	65	67	72	66	53	49	51	50	55	60	60	0
11	✓	✓		58	52	48	51	39	40	49	53	69	61	58	57	46	−10	−31	76	61	N 42	71	70	83	89	84	85	54	1
12	✓	✓	✓	80	85	116	110	117	101	99	96	93	89	89	92	84	83	94	99	104	105	99	96	85	86	106	97	96	0
13	✓	✓	✓	99	95	85	77	75	72	65	62	64	79	83	87	83	92	92	95	99	104	87	71	89	121	106	114	87	0
14	✓	✓	✓	124	107	113	113	112	96	103	70	62	78	75	70	71	72	78	79	86	77	68	70	68	68	73	74	84	0
15	✓	✓	✓	70	60	66	64	67	53	47	48	48	48	52	54	54	74	64	67	60	56	58	61	62	62	61	61	59	0
16				43	46	38	N 16	52	41	37	42	52	71	70	66	70	70	63	Z	Z	N 56	79	76	75	76	79	60		1
17				55	85	90	80	75	82	78	58	−101	N 22	101	Z	N103	186	Z	72	70	69	72	70	58	60	72	77		1
18	✓	✓		73	82	108	111	104	92	85	88	84	70	78	80	N 53	N 47	N 57	61	75	77	70	75	83	86	89	88	80	1
19	✓	✓	✓	87	85	99	94	93	99	89	84	74	77	79	81	73	88	88	89	95	99	110	103	109	108	107	99	92	0
20	✓	✓	✓	76	82	80	99	101	92	94	99	89	99	95	92	89	89	87	92	99	102	107	100	104	90	66	81	92	0
21	✓	✓	✓	103	93	75	75	78	57	65	75	79	90	91	95	84	93	93	98	109	97	98	95	107	113	113	113	91	0
22	✓	✓		117	123	154	160	165	163	132	135	108	94	92	89	103	95	92	93	96	93	95	108	100	109	125	131	116	0
23	✓	✓		158	155	164	142	121	83	149	132	90	79	75	72	87	78	84	95	110	113	111	117	127	129	135	143	115	0
24	✓	✓	✓	136	145	155	134	121	121	119	120	101	100	97	92	98	93	105	112	112	107	111	109	99	94	120	123	114	0
25				134	131	149	139	135	127	115	95	111	94	107	107	96	104	108	119	111	121	118	127	122	Z	Z	Z		1
26				N 75	121	118	126	123	126	112	106	95	90	89	92	87	88	90	109	107	111	—	—	—	—	142	141		1
27	✓	✓		164	158	146	141	107	88	86	79	70	69	82	86	88	99	113	116	113	112	88	103	93	107	111	94	105	0
28	✓	✓	✓	107	136	142	134	133	121	112	107	104	94	93	89	85	98	103	107	115	107	103	113	121	121	121	139	113	0
29	✓	✓	✓	142	136	100	107	130	107	87	96	95	96	106	103	94	99	98	101	107	107	99	105	117	117	112	134	108	0
30	✓	✓		163	193	219	169	144	112	93	71	59	57	52	51	66	77	79	84	101	106	108	109	118	121	134	151	110	0
31																													
MEANS * 24 DAYS				97	98	103	100	98	87	83	80	76	76	77	77	76	78	78	86	91	88	83	84	87	88	92	94	87	
MEANS † 24 DAYS				97	98	103	100	98	87	83	80	76	76	77	77	76	78	78	86	91	88	83	84	87	88	92	94	87	
MEANS ‡ 17 DAYS				90	90	93	94	95	85	80	77	75	77	78	78	77	82	85	86	90	87	81	80	83	83	86	89	84	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALUE

TABLE 422

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	744.0	12.9	74	21.2	4.5		10.1	S	2	ESE	1	N	5	S	1	Ci; CiSt; CuCu; ACu	4- 6	Ci; CiSt; CiCu; ACu	1- 3	Dew early
2	737.8	16.0	61	18.9	3.5		5.0	..	0	NNW	8	W	15	SW	1	FrCu; StCu; CuNb	6- 8	FrCu; StCu; CuNb	8- 3	Dew early; rain at 15h
3	745.2	11.0	94	16.6	7.0	0.08	4.8	..	0	..	0	WSW	6	SSW	2	FrCu; StCu; Nb	7-10	FrCu; StCu; Nb	10- 3	Light drizzling rain in am and early pm
4	751.5	14.5	60	19.4	4.6	0.02	8.2	..	0	..	0	SSE	3	SSE	3	ACu	8- 3	ACu	3- 1	Dew early; cloudless at night
5	751.2	19.0	41	22.6	4.5		10.5	S	2	E	3	ENE	3	SSE	3		0		0	Dew early; thin haze over part of sky
6	747.6	17.4	38	25.8	3.5		10.4	S	2	..	0	ENE	1	SE	2		0		0	Dew early; thin haze over part of sky
7	743.7	19.6	24	28.2	4.4		9.0	SE	1	N	4	NNW	11	NNW	1	CiSt; CiCu	1- 3	ACu; CiCu	4- 8	Dew early
8	737.8	20.4	70	23.4	8.5		3.5	NNW	1	NNW	9	WNW	16	W	13	CiCu; ACu; CuNb	6- 8	ACu; CuNb; Nb	7- 8	Rain at 13h, and later
9	742.9	11.5	86	13.9	7.6	0.31	6.3	W	2	SW	2	SSW	12	W	1	ASt; Cu; CuNb; Nb	7-10	Cu; CuNb	4- 8	Raining before 9h, and later; clear at night
10	747.6	10.5	76	16.2	1.7	0.04	3.6	SW	1	..	0	S	2	..	0	Cu; StCu	9-10	Cu; StCu	10	Dew early
11	745.0	15.2	61	18.2	8.1		3.9	..	0	NNW	1	SSW	7	SSW	4	Ci; CiSt; Cu; StCu	4- 6	Cu; StCu; CuNb	7-10	Showers in pm; clearing in evening
12	747.6	9.9	67	13.4	5.3	0.17	9.4	S	2	SSE	8	SE	12	SE	2	Cu; FrCu	3- 6	Cu; FrCu	1- 3	
13	751.2	10.0	53	15.2	0.5		10.5	SE	4	E	4	ESE	8	SE	2		0		0	Dew early
14	749.2	14.5	52	18.1	2.6		10.6	S	1	E	2	E	3	SSE	4	ACu	0- 1	ACu	0- 1	Dew early; thin haze over part of sky
15	745.3	16.4	48	22.7	4.7		10.6	SSE	2	ENE	1	NNW	2	S	3		0		0	Dew early; thin haze over part of sky
16	739.8	19.0	43	22.3	5.9		6.6	..	0	NNW	2	W	7	..	0	ASt; ACu; StCu	2- 8	StCu; CuNb	7-10	Few showers in pm, with distant lightning
17	738.3	12.2	90	17.8	7.3	0.05	4.9	..	0	NNW	3	W	11	SW	4	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Occasional showers
18	742.6	17.4	68	18.3	8.1	0.02	3.9	WSW	2	SW	6	SW	11	SSW	7	Cu; ASt; Cu; CuNb	6- 9	StCu; CuNb; Nb	7-10	Few drops rain
19	745.1	14.7	60	18.4	6.8	0.04	3.2	WSW	2	SSW	3	SSW	6	SSW	3	Cu; StCu	7-10	Cu; StCu	6- 1	Clear sky at night
20	744.5	14.2	57	19.4	4.1		8.7	S	1	SE	1	W	4	SW	4	CiCu; ASt; ACu; Cu	1- 8	ASt; ACu; Cu	7- 8	Dew early; clearing in evening
21	740.9	15.0	61	19.2	2.1		4.9	..	0	..	0	SW	7	SW	2	ACu; Cu	4- 9	FrCu; Cu	7- 8	Dew early; clearing in evening
22	741.5	15.6	57	20.5	4.3		10.9	SSW	2	SSE	4	SE	6	SSW	5	ASt; Cu	1- 6	ASt; Cu	4- 6	Dew early; clearing in evening
23	740.1	16.5	54	23.3	5.9		11.0	SW	4	SSE	3	..	0	SSW	5	Cu	1- 3	Cu	1- 3	Dew early; thin haze in part of sky in am
24	741.0	17.5	53	22.2	6.8		10.2	SSW	2	SSW	7	SW	1	SSW	5	Cu	1- 6	Cu	4- 6	Dew early; clearing in evening
25	740.3	17.4	62	24.8	9.3		8.4	SSW	3	SE	7	S	6	S	4	ACu; Cu	1- 6	Cu	7- 8	
26	741.3	18.9	51	25.1	9.9	T	10.2	S	4	SE	10	SE	13	S	3	CiSt; ASt	1- 3	CiSt	1- 3	
27	741.4	16.8	56	24.1	5.8		11.0	S	4	SE	5	SE	9	SSW	4		0		0	
28	742.7	17.5	64	23.8	9.0		9.0	S	4	SSW	4	SW	7	SSW	4	Cu	1- 3	Cu	1- 3	
29	745.4	16.0	49	21.9	5.0		11.0	SSW	2	SE	8	SE	6	S	4		0		0	Dew early; thin haze in part of sky
30	743.5	18.5	50	27.2	6.0		11.0	SSW	3	SE	4	SE	3	S	4	CiSt	0- 1		0	Dew early; thin haze in part of sky in am
31																				
SUM						0.73														
MEAN	743.9	15.5	59	20.7	5.6		8.0		1.8		3.7		6.8		3.3					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 423

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	210	210	210	192	197	208	204	230	271	260	233	225	208	200	193	189	185	181	190	196	218	216	204	234	211	0
2	✓	✓		260	267	319	356	356	345	362	315	241	181	155	158	152	152	141	158	149	152	151	169	173	184	192	204	220	1
3	✓	✓	✓	216	205	218	238	248	234	223	232	199	190	193	182	166	164	164	170	170	169	164	174	178	179	181	192	194	0
4	✓	✓	✓	207	219	234	232	234	251	275	290	277	208	185	181	177	169	167	169	164	164	182	178	182	184	186	188	204	0
5	✓	✓	✓	189	174	163	142	147	149	190	249	258	230	210	210	219	219	207	205	203	207	205	210	201	205	192	192	199	0
6	✓	✓	✓	204	221	214	215	219	227	236	285	296	289	275	249	196	(196	189)	195	181	179	179	170	184	189	189	196	216	0
7	✓	✓	✓	223	256	279	285	299	316	333	347	312	237	221	188	173	178	177	162	155	158	181	199	234	258	284	310	240	0
8	✓			299	306	316	300	286	279	260	229	179	137	127	121	110	107	101	123	123	125	132	122	133	134	141	149	181	1
9	✓			159	159	164	166	175	148	96	155	148	151	160	151	162	156	151	162	160	163	163	164	184	200	207	205	163	2
10	✓	✓	✓	215	230	227	248	251	271	271	253	248	210	196	190	190	182	181	178	175	177	192	190	196	(219	210)	210	213	0
11	✓	✓		218	233	266	275	247	243	248	267	218	215	207	193	190	166	132	162	155	133	162	164	164	169	175	179	199	1
12	✓	✓	✓	195	189	156	156	169	179	175	178	182	175	164	151	164	163	163	149	151	149	158	163	178	186	178	178	169	0
13	✓	✓	✓	179	192	216	238	243	240	259	274	269	222	200	178	162	(149)	134	123	122	126	138	147	147	129	140	133	182	0
14	✓	✓	✓	127	141	147	138	137	142	156	219	238	210	204	197	193	190	186	188	186	174	174	170	182	192	192	203	179	0
15	✓	✓	✓	201	225	236	264	256	271	288	323	321	299	245	223	210	193	193	179	182	179	189	203	204	193	203	208	229	0
16	✓			226	219	259	227	255	292	307	347	311	197	181	182	181	177	164	134	127	151	152	155	185	201	207	236	211	1
17	✓			232	[170	196	219	204]	207	216	238	163	184	182	125	155	162	136	163	167	167	164	164	164	174	174	173	179	1
18	✓	✓		166	164	151	151	151	159	162	164	162	163	164	162	164	164	156	153	152	148	151	156	153	162	164	164	159	1
19	✓	✓	✓	175	177	173	189	190	189	196	190	179	166	169	169	164	162	160	149	142	152	151	163	173	177	181	178	171	0
20	✓	✓	✓	192	182	177	164	164	174	173	175	185	178	166	163	152	(151)	151	149	151	141	149	158	160	178	196	199	168	0
21	✓	✓	✓	188	205	219	225	234	251	260	259	233	174	164	162	164	174	160	153	153	151	151	153	170	164	174	178	188	0
22	✓	✓		189	189	[171	171	163	142	164	156]	184	192	189	182	178	170	164	159	153	148	140	133	155	164	164	159	166	0
23	✓	✓		[147	152	140	133	137	141	145	153]	203	221	233	218	196	192	179	173	164	151	151	153	155	158	151	147	166	0
24	✓	✓	✓	147	149	148	155	155	147	140	140	133	137	140	147	145	152	155	149	138	141	138	142	141	140	147	147	145	0
25	✓			147	144	149	151	151	155	151	158	164	173	178	181	181	182	160	137	140	147	149	147	152	136	127	177	156	1
26	✓			204	190	178	177	188	184	188	179	192	196	189	182	181	169	160	145	147	142	149	152	159	159	138	137	170	1
27	✓	✓		134	134	145	164	179	192	204	219	232	234	233	204	167	(147)	127	125	127	134	145	137	155	145	140	147	165	0
28	✓	✓	✓	147	137	127	123	125	132	123	115	138	147	147	151	147	137	136	138	137	137	138	140	151	156	164	169	140	0
29	✓	✓	✓	167	169	178	178	156	160	178	178	177	151	151	142	151	147	137	141	140	141	140	129	133	127	134	123	151	0
30	✓	✓		[115	110	110	132]	147	148	184	221	252	271	274	263	229	219	219	215	195	169	152	134	137	137	137	129	179	0
31																													
MEANS * 30 DAYS				189	191	196	200	202	206	212	225	219	200	191	181	174	170	161	160	156	155	159	161	170	174	176	181	184	
MEANS † 24 DAYS				184	189	193	198	200	205	215	226	225	207	197	187	177	172	165	164	160	157	161	164	172	175	178	182	186	
MEANS ‡ 17 DAYS				187	193	195	199	201	208	216	232	230	205	192	183	175	172	168	164	161	160	166	170	178	182	186	190	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 424

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	156	183	180	153	163	164	168	190	254	246	223	222	213	205	199	190	179	173	164	175	195	187	176	222	191	0
2	✓	✓		237	258	316	334	319	329	353	303	231	186	161	164	163	157	160	146	129	129	124	131	136	144	146	157	205	1
3	✓	✓	✓	153	157	175	186	190	186	161	151	164	162	164	166	164	154	154	153	149	137	128	130	118	125	130	130	154	0
4	✓	✓	✓	150	157	176	170	193	222	234	246	224	180	168	157	164	157	153	154	146	144	146	133	130	131	146	144	168	0
5	✓	✓	✓	144	129	114	92	91	99	123	210	232	222	210	213	218	215	199	193	181	193	199	189	169	181	191	176	174	0
6	✓	✓	✓	187	212	201	190	199	210	212	260	270	281	278	250	206	201	189	(180)	175	175	176	153	153	150	163	180	202	0
7	✓	✓	✓	186	231	257	260	288	312	314	317	303	258	238	202	188	194	184	174	164	157	180	201	222	260	278	307	236	0
8	✓			286	301	289	281	276	269	244	222	177	142	141	129	118	138	127	115	119	120	128	134	141	133	119	122	178	1
9	✓			118	112	104	104	125	84	99	141	129	153	160	137	149	131	146	141	136	127	122	109	147	148	166	167	131	2
10	✓	✓	✓	155	164	155	181	177	211	229	224	211	193	176	177	176	171	166	161	153	141	146	153	164	176	180	177	176	0
11	✓	✓		180	186	209	228	229	227	222	242	202	212	191	186	191	181	173	154	144	129	140	141	133	118	127	130	178	1
12	✓	✓	✓	140	143	108	127	125	141	147	150	166	164	156	150	173	164	160	144	144	141	133	124	131	138	115	133	142	0
13	✓	✓	✓	133	142	188	193	196	211	213	259	266	224	204	182	154	141	(125)	117	114	113	125	124	100	96	108	103	160	0
14	✓	✓	✓	99	104	105	107	113	124	127	196	230	206	188	191	180	183	173	173	168	161	150	131	146	155	160	168	156	0
15	✓	✓	✓	173	193	212	226	237	245	259	302	307	300	260	243	227	207	198	180	175	171	173	179	177	173	179	190	216	0
16	✓			210	218	243	237	238	261	306	323	303	210	190	195	187	181	164	141	117	149	136	137	147	169	174	188	201	1
17	✓			199	155	174	187	173	190	202	245	212	187	164	168	166	148	143	161	157	151	143	141	149	153	151	146	169	1
18	✓	✓		150	128	118	117	124	127	129	146	149	156	154	149	163	162	153	146	140	130	134	134	130	129	118	127	138	1
19	✓	✓	✓	134	153	120	131	141	129	153	156	157	148	154	156	160	148	144	133	128	129	117	125	129	127	137	136	139	0
20	✓	✓	✓	131	134	131	94	117	129	129	143	164	153	(153)	149	149	140	(142)	129	130	124	115	129	140	147	142	153	136	0
21	✓	✓	✓	154	156	184	186	211	223	237	240	205	163	153	153	156	163	146	141	136	131	127	125	128	127	129	133	163	0
22	✓	✓		118	143	108	98	78	81	122	128	168	184	180	175	168	154	154	148	141	130	115	114	129	131	122	113	133	0
23	✓	✓		96	91	92	87	92	92	67	131	191	212	222	207	187	186	164	164	146	131	130	128	127	122	104	108	137	0
24	✓	✓	✓	97	93	99	99	92	87	102	122	122	129	131	140	138	138	129	127	129	124	119	117	113	112	109	108	116	0
25	✓			104	107	103	100	104	113	130	150	161	171	168	175	175	175	149	127	131	129	129	118	117	114	188	199	139	1
26	✓			199	153	141	153	130	137	149	174	189	198	199	189	190	173	161	137	146	131	129	117	120	120	104	108	152	1
27	✓	✓		86	92	105	124	153	171	180	201	232	234	213	195	175	137	(125)	120	120	120	117	108	127	118	107	120	145	0
28	✓	✓	✓	108	92	87	92	96	104	96	100	114	129	131	133	129	118	120	125	120	115	117	107	113	113	117	108	112	0
29	✓	✓	✓	89	98	112	122	93	113	129	161	174	157	143	141	144	134	130	129	125	117	104	104	103	100	104	88	121	0
30	✓	✓		78	71	64	92	115	134	157	214	262	275	277	266	224	207	209	199	183	153	137	118	118	117	109	97	162	0
31																													
MEANS * 30 DAYS				148	151	156	158	163	171	180	202	206	194	185	179	173	165	158	150	144	139	137	134	138	140	143	148	161	
MEANS † 24 DAYS				139	145	151	154	160	170	178	200	208	199	189	182	175	167	160	153	147	140	138	136	135	141	142	146	161	
MEANS ‡ 17 DAYS				141	148	153	153	160	171	178	202	210	195	184	178	173	167	159	153	148	144	142	141	143	147	151	156	162	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 425

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				110	115	112	95	83	74	83	78	—	—	83	87	93	101	105	106	112	106	115	143	139	135	Z	Z		1
2				Z	Z	88	135	136	160	124	117	102	104	100	99	97	106	102	100	96	101	69	86	97	101	102	97		1
3				97	103	87	—	—	—	—	—	125	129	N122	93	51	74	87	89	91	88	83	78	87	95	110	126		1
4	✓	✓		135	148	153	129	130	100	88	74	79	75	86	88	88	82	92	89	93	94	90	106	138	190	231	225	117	0
5	✓	✓		204	188	191	158	130	117	103	102	101	97	93	95	90	96	100	101	103	96	92	151	170	137	132	136	124	0
6	✓	✓		160	162	146	133	118	112	106	109	101	102	101	92	101	97	96	91	92	119	148	129	125	151	175	160	122	0
7				106	102	97	94	83	75	73	66	Z	Z	66	39	43	43	36	28	N 28	67	60	59	—	—	Z	Z		2
8				Z	Z	Z	N 84	83	Z	49	46	46	60	70	68	66	56	N 33	Z	−49	50	N 68	60	74	N 32	60	61		2
9	✓	✓		89	61	73	86	53	N 11	50	75	N 55	49	45	55	51	45	59	59	70	83	64	62	59	61	69	74	61	1
10	✓	✓	✓	74	82	70	69	66	68	48	43	51	52	56	55	62	68	79	83	88	88	88	86	88	91	95	86	72	0
11	✓			107	165	129	100	95	87	76	79	68	69	83	89	93	91	89	91	89	90	86	87	106	121	119	105	96	0
12	✓	✓	✓	97	97	101	98	86	74	66	63	56	59	58	57	56	56	65	68	68	67	71	83	92	115	107	106	78	0
13	✓	✓	✓	98	83	83	75	60	51	46	47	60	63	65	77	78	69	66	78	78	71	78	94	117	137	138	129	81	0
14	✓	✓	✓	109	122	117	128	111	103	83	66	63	68	65	73	77	81	96	94	97	89	97	116	119	118	100	103	96	0
15	✓	✓	✓	93	94	103	101	84	79	76	71	63	66	65	66	67	74	77	83	87	91	91	98	101	101	89	78	83	0
16	✓	✓	✓	71	71	72	73	74	69	68	67	74	75	73	78	76	77	86	78	76	78	86	88	90	85	83	74	77	0
17	✓	✓	✓	69	61	61	60	60	49	48	55	55	58	57	61	69	64	68	71	69	72	55	61	66	73	80	81	63	0
18	✓	✓	✓	79	81	81	77	64	58	51	40	45	51	52	62	69	77	70	73	75	73	74	77	80	94	93	106	71	0
19				105	104	101	97	97	87	57	51	56	60	67	65	77	65	66	70	70	80	58	60	Z−	Z+	Z	Z		1
20				Z	Z	Z	Z	121	Z	Z	55	77	81	Z+	Z+	Z+	151	97	96	97	88	88	101	105	126	111	119		2
21				113	147	152	149	114	126	131	115	98	92	92	91	88	93	89	97	91	102	96	99	94	Z	50	101		1
22				N 7	Z	N 68	Z	118	96	92	95	83	72	N 47	Z+	Z+	Z	Z	Z	Z	126	N 38	N 3	—	—	—	88		2
23				84	92	87	65	84	66	41	58	41	45	41	51	Z	N 10	Z+	Z	N 53	Z+	Z	78	94	93	97	107		1
24	✓	✓	✓	109	106	106	107	91	65	62	73	68	53	55	55	50	51	64	53	57	66	68	66	78	87	98	107	75	0
25	✓	✓	✓	111	126	129	116	82	98	88	76	85	74	74	69	72	78	80	89	88	107	97	104	103	101	116	141	96	0
26	✓	✓	✓	142	109	106	106	99	83	75	74	70	79	80	77	83	83	84	83	87	86	79	80	92	92	95	87	89	0
27				83	71	69	61	59	54	52	47	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	128		0
28				138	—	—	—	—	—	97	79	89	82	78	80	77	88	67	84	69	74	Z−	−152	−61	N 74	N 30	157		2
29				Z	Z	Z	171	Z	Z	Z	157	Z	Z+	Z+	83	105	90	91	80	95	92	89	93	107	115	106	107		1
30	✓	✓	✓	118	132	134	138	117	83	95	94	94	87	80	74	83	85	88	102	106	97	94	100	98	102	109	92	100	0
31	✓	✓	✓	65	74	97	84	74	69	75	92	84	87	80	93	101	105	111	101	98	100	105	106	110	109	123	124	94	0
MEANS * 18 DAYS				107	109	108	102	89	76	72	72	71	70	70	73	76	77	82	83	84	87	87	94	102	109	114	112	89	
MEANS † 17 DAYS				107	106	107	102	88	76	72	72	71	70	70	72	75	76	81	82	84	87	87	95	102	108	114	112	88	
MEANS ‡ 13 DAYS				95	95	97	95	82	73	68	66	67	67	66	69	73	74	80	81	83	83	83	89	95	100	102	101	83	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 426

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h DIR.	VEL.	08^h–09^h DIR.	VEL.	14^h–15^h DIR.	VEL.	20^h–21^h DIR.	VEL.	FORENOON TYPE	AM'T	AFTERNOON TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	740.4	19.2	49	26.3	7.8		9.4	SSW	3	SE	9	SSE	9	SSW	4	ACu; Cu; StCu	6- 8	ACu; Cu; StCu; Nb	7- 8	Light thundershower at 22^h
2	739.4	17.9	68	21.1	14.0	0.01	6.1	SW	1	SW	8	WSW	9	W	4	ACu; Cu; FrCu; Nb	8-10	Cu; StCu	7- 8	Few drops rain in early am
3	741.8	13.7	93	18.2	6.6	0.02	4.1	W	1	SW	8	SSW	10	SSW	3	FrCu; Nb	7-10	Cu; StCu	7- 8	Rain at 7^h, 9^h, and later; clear at night
4	746.9	14.5	52	20.7	2.9	0.04	10.8	S	2	ESE	11	ESE	4	S	7		0		0	Dew early; thin haze over part of sky
5	746.0	16.9	56	24.1	4.8		10.9	SSW	3	SE	7	SSE	3	S	6	CiSt; ASt	0- 1		0	Dew early; thin haze over part of sky
6	743.4	17.0	59	23.3	6.6		11.0	S	6	SSE	8	SSE	11	S	7	CiSt	0- 1	ASt	1- 3	Dew early; thin haze over part of sky
7	743.1	12.5	60	19.3	8.5		4.0	SE	16	ESE	22	ESE	24	E	22	ACu; ASt; CuNb	7- 8	Acu; ASt; CuNb	7- 8	Rain in am and late pm
8	738.8	12.4	81	16.8	7.5	0.51	0.4	SE	15	ESE	14	ESE	13	SSE	8	Cu; FrCu; Nb	7-10	Cu; FrCu; Nb	7-10	Rain in early hours and at 16^h
9	739.8	13.5	79	18.9	9.2	0.17	2.3	SE	3	SE	2	NE	1	SSE	2	StCu; CuNb	7-10	Cu; StCu	3- 6	Rain in early am
10	741.1	16.3	69	20.4	8.8		7.6	SSW	1	SE	2	SSW	9	SSW	3	Cu	4- 7	Cu	1- 3	Dew early
11	743.8	15.5	66	21.5	9.2		8.1	SSE	5	SE	13	SE	7	SSE	4	Cu; StCu	6-10	Cu; StCu	6- 1	Dew early
12	745.3	16.4	59	23.3	9.0		10.4	SE	6	ESE	8	E	7	SSE	5	Cu	1- 6	Cu	6- 1	
13	741.9	20.4	37	25.1	6.8		11.3	SSE	3	ENE	10	SE	5	S	9		0		0	
14	740.5	19.6	40	26.8	7.6		11.3	S	4	SE	6	SE	3	SSE	5		0		0	
15	741.4	22.3	37	28.2	11.5		9.8	SE	10	E	8	E	4	SE	5		0	Cu; StCu	1- 6	
16	741.5	22.8	31	28.1	12.2		11.0	ESE	7	E	16	E	7	ESE	10	CiCu; ASt; ACu	1- 3	ACu	1- 3	
17	742.5	20.0	34	27.4	9.7		11.1	SE	5	ENE	10	W	2	SE	2	ASt	1- 3	ASt; Cu	1- 3	Thin haze over part of sky in am
18	741.5	22.6	28	28.7	7.5		11.3	SSW	1	NE	2	WNW	3	S	4	CiSt	1- 3	ACu	1- 3	
19	737.3	24.5	23	32.0	7.8		11.0	..	0	NE	8	NNE	6	ENE	3	CiSt; ASt; ACu	1- 3	ACu; StCu; CuNb	1- 8	Few drops rain in late pm; distant thunder and lightning
20	739.3	21.0	71	24.4	14.6	0.11	6.6	ESE	10	N	5	WSW	20	WSW	5	ACu; Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7- 8	Rain in early hours and in am
21	734.7	19.3	58	23.6	12.0	0.02	9.6	W	3	WNW	5	W	14	WNW	1	FrCu; Cu	7- 8	Cu; FrCu; CuNb	4- 8	Rain in late pm; sky clearing in evening
22	733.4	16.0	71	18.9	10.9	0.17	3.8	NNE	1	NNW	6	W	11	S	2	ACu; FrCu; CuNb; Nb	8-10	ASt; FrCu; CuNb; Nb	7-10	Thundershowers in early am and in pm
23	737.8	15.5	81	20.1	10.8	0.33	3.9	SSW	3	S	6	SSE	5	SSW	4	Cu; FrCu; CuNb; Nb	7-10	Cu; FrCu; Cu; Nb	6- 1	Rain between 12^h5 and 18^h5
24	740.6	16.0	80	23.1	9.5	0.20	7.1	S	2	SE	2	SSW	5	SSW	6	Cu; FrCu; StCu	6- 8	Cu; FrCu	6- 1	
25	743.4	17.0	58	23.0	8.3		10.2	SSW	2	SSE	3	S	6	S	5	Cu; StCu	4- 7	Cu; StCu	3- 1	Dew early
26	744.7	17.4	60	25.9	10.0		11.9	SE	10	ESE	10	E	6	SE	5	CiSt	6- 3	CiSt	3- 1	
27	737.4	25.0	33	32.3	12.6		10.0	S	3	ESE	4	W	4	WSW	2	Ci; ASt; Cu	3- 6	ASt; Cu; CuNb	6- 1	
28	735.1	18.0	57	20.6	12.0		2.9	WSW	6	WSW	6	W	16	WNW	7	StCu; CuNb	7-10	Cu; FrCu; Nb	10	Rain after 19^h
29	738.2	12.0	86	16.7	8.9	0.41	7.2	WSW	14	SW	9	SSW	15	SSW	5	Cu; FrCu; Nb	7-10	Cu; Nb	4- 8	Rain in early hours and am
30	744.5	15.5	57	19.6	5.7	T	10.8	WSW	3	SSW	8	SSW	10	SSW	3	CiSt; ASt; ACu	4- 7	CiSt; ASt	3- 1	Dew early
31	749.2	16.0	50	21.3	4.3		11.3	..	0	WSW	1	S	4	SSW	6	ACu; ASt; Cu	3- 6	ACu; ASt	3- 1	
SUM						1.99														
MEAN	740.8	17.6	58	23.2	9.0		8.3		4.8		7.6		8.2		5.3					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 427

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			127	125	127	141	171	186	206	230	213	199	199	200	186	168	168	172	169	161	140	123	116	134	144	140	164	1
2	✓			140	110	175	141	124	116	124	124	127	131	138	144	144	148	151	152	154	151	147	152	152	155	157	166	143	1
3	✓			176	175	195	197	213	216	230	221	161	154	149	140	141	144	141	141	144	151	154	155	161	164	155	145	168	1
4	✓	✓		147	131	127	140	147	169	183	213	206	190	179	169	161	(152)	144	144	145	144	143	138	113	85	85	87	148	0
5	✓	✓		97	103	114	143	155	165	169	188	192	178	180	183	188	183	169	165	158	155	155	109	96	118	138	140	152	0
6	✓	✓		127	124	133	143	149	155	164	158	169	173	168	173	164	159	169	173	159	113	90	99	113	99	90	109	141	0
7				158	165	173	169	180	183	172	175	155	151	183	180	161	162	161	169	169	169	179	182	—	—	169	137		2
8	✓			68	175	230	240	223	203	214	221	226	209	182	165	145	141	168	145	212	224	217	217	200	192	203	204	193	2
9	✓	✓		213	221	224	214	197	209	230	202	212	227	231	235	228	231	226	207	202	209	203	212	224	219	226	226	218	1
10	✓	✓	✓	238	238	255	266	268	292	295	282	262	259	254	233	217	202	199	196	171	155	151	151	151	155	155	155	217	0
11				141	121	161	197	197	197	199	193	197	193	179	155	152	(151)	—	—	—	—	—	—	—	—	137	168		0
12	✓	✓	✓	196	210	221	230	243	250	265	264	250	216	196	186	172	172	175	175	169	171	165	145	151	133	155	162	195	0
13	✓	✓	✓	182	209	231	240	265	268	300	306	226	214	193	183	171	157	143	128	127	137	144	127	118	117	117	127	185	0
14	✓	✓	✓	138	149	162	169	185	193	216	255	259	258	251	235	209	186	175	155	147	147	143	131	127	143	169	161	182	0
15	✓	✓	✓	179	188	193	203	210	221	226	240	245	230	212	207	192	180	173	166	165	159	155	149	152	164	183	207	192	0
16	✓	✓	✓	231	248	271	279	289	296	288	261	216	206	195	183	178	169	164	158	152	151	144	143	148	175	197	209	206	0
17	✓	✓	✓	216	240	259	276	293	310	330	286	244	224	212	202	197	189	179	165	169	158	169	158	171	164	164	168	214	0
18	✓	✓	✓	180	180	183	195	213	226	259	310	292	254	243	197	186	(179)	165	165	169	151	141	144	154	151	155	149	193	0
19	✓			162	168	165	165	165	183	279	305	255	202	180	178	164	157	151	141	141	157	178	182	165	173	179	58	177	1
20	✓			94	87	166	226	216	182	175	213	173	179	138	159	152	143	145	155	157	158	155	145	144	151	151	141	159	2
21	✓			141	138	127	113	109	113	134	159	166	157	151	145	141	141	138	138	133	138	138	144	155	124	133	147	138	1
22	✓			138	100	123	118	152	154	151	140	141	149	144	154	157	141	72	72	113	157	145	149	168	168	161	175	139	2
23	✓			185	195	210	209	203	207	209	212	216	210	200	197	164	213	210	178	168	133	107	137	133	138	140	141	180	1
24	✓	✓	✓	145	161	169	172	183	196	196	144	155	183	180	169	166	159	161	159	152	143	151	151	138	138	141	140	160	0
25	✓	✓	✓	154	159	164	169	189	149	186	196	169	166	165	155	152	(145)	138	141	144	135	145	145	151	151	141	121	155	0
26	✓	✓	✓	133	171	183	180	180	195	200	207	193	164	154	145	149	155	155	155	145	149	158	155	155	161	172	188	167	0
27	✓			216	240	265	292	286	290	292	293	282	226	212	196	180	188	179	180	180	175	175	188	188	154	141	127	214	0
28	✓			113	113	111	113	114	124	135	131	128	133	138	135	138	138	138	140	141	137	113	99	123	125	127	145	127	2
29	✓			123	123	137	131	138	131	118	138	116	141	138	131	138	140	140	140	137	141	143	143	143	143	155	169	137	1
30	✓	✓	✓	168	168	166	165	175	202	200	169	161	165	158	155	145	141	137	143	143	145	145	145	159	159	168	200	162	0
31	✓	✓	✓	230	226	212	216	240	254	244	195	176	179	169	164	161	158	151	155	151	143	145	148	155	165	166	169	182	0
MEANS * 29 DAYS				161	168	183	189	196	202	214	216	201	192	183	176	168	165	159	155	156	153	150	148	149	149	154	154	173	
MEANS † 17 DAYS				175	184	192	200	211	221	232	228	213	205	196	187	179	172	166	162	157	151	150	144	146	147	154	160	180	
MEANS ‡ 13 DAYS				184	196	205	212	226	235	247	240	219	209	199	186	177	169	163	159	154	150	150	146	148	152	160	166	186	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ⌇ ⌇=DISTURBED BY BAD WEATHER

TABLE 428

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			91	66	81	108	134	150	188	226	216	203	198	205	184	158	159	162	149	139	113	95	90	98	98	117	143	1
2	✓			113	174	159	117	99	94	95	107	108	121	126	131	137	137	137	133	135	125	130	130	121	118	117	125	125	1
3	✓			137	142	153	152	179	197	211	197	137	129	125	126	137	139	135	140	137	131	121	131	121	121	120	105	143	1
4	✓	✓		[92	70	69	73]	95	120	159	211	208	198	182	169	159	154	(137)	134	134	129	112	111	[91	63	47	51]	124	0
5	✓	✓		[55	68	73	99]	113	112	137	177	192	181	173	182	181	168	154	147	137	134	121	[86	68	90	109	111]	128	0
6	✓	✓		[90	86	94	99]	108	131	137	143	159	168	162	166	150	150	162	163	150	[99	73	83	91	78	69	78]	120	0
7				[147]	159	172	173	184	196	183	187	201	217	204	197	192	183	184	187	186	183	189	194	204	134	221	221		2
8	✓			184	159	167	235	217	187	225	237	234	221	186	169	152	147	187	217	247	234	223	221	194	201	197	197	202	2
9	✓	✓		199	214	209	197	197	221	217	183	208	223	232	226	222	225	205	188	188	182	177	192	202	199	197	197	204	1
10	✓	✓	✓	197	201	235	219	233	271	285	292	267	258	247	233	215	201	196	189	159	147	135	130	129	121	126	130	201	0
11				[105	81	126]	159	164	173	186	193	199	204	189	166	159	148	(150)	159	159	147	139	122	96	87	99	130		0
12	✓	✓	✓	171	193	198	209	221	234	253	266	260	235	210	193	186	181	176	177	172	168	147	130	130	104	121	130	186	0
13	✓	✓	✓	147	173	183	201	232	253	296	323	245	232	213	188	173	162	138	117	117	122	129	121	107	98	98	103	174	0
14	✓	✓	✓	104	122	126	139	159	168	204	267	280	273	265	246	214	188	168	152	137	135	120	102	103	114	152	158	171	0
15	✓	✓	✓	181	186	188	193	202	213	229	253	269	249	233	221	201	181	168	166	159	152	138	126	129	147	173	205	190	0
16	✓	✓	✓	233	251	269	280	292	298	296	284	234	222	210	191	188	177	163	159	152	150	139	143	147	176	189	196	210	0
17	✓	✓	✓	197	232	244	257	267	303	326	313	269	241	225	213	202	193	177	164	164	147	154	138	153	139	137	137	208	0
18	✓	✓	✓	139	155	168	181	207	221	255	323	307	270	259	213	193	181	(172)	159	152	142	131	135	135	128	130	121	187	0
19	✓			133	133	117	138	126	159	251	296	269	217	193	184	163	155	145	134	130	145	159	167	197	154	160	187	171	1
20	✓			147	196	193	108	184	125	202	229	171	171	189	148	139	139	152	150	150	152	149	134	126	112	116	109	154	2
21	✓			103	92	90	78	81	83	100	126	159	163	158	147	145	139	134	135	129	121	121	112	113	134	133	103	121	1
22	✓			117	117	94	96	112	120	125	134	138	152	158	108	131	113	138	138	78	121	138	159	145	122	117	138	125	2
23	✓			158	172	184	193	176	184	201	199	214	209	209	205	225	235	201	189	162	99	125	124	124	116	116	108	172	1
24	✓	✓	✓	116	122	128	125	147	167	179	145	147	184	179	167	152	155	158	149	143	134	133	133	120	112	100	95	141	0
25	✓	✓	✓	108	108	95	112	135	78	143	179	154	150	149	150	147	142	(126)	131	126	111	121	121	(125	121	112)	91	126	0
26	✓	✓	✓	95	158	168	152	168	183	201	216	199	172	158	145	148	153	145	143	137	137	138	130	129	130	148	171	155	0
27	✓			197	209	233	260	262	272	287	303	305	245	221	192	172	187	179	178	174	169	169	172	164	142	130	99	205	0
28	✓			96	92	94	87	86	88	108	113	121	125	130	130	130	130	134	133	129	134	152	147	130	120	125	111	119	2
29	✓			139	130	100	107	99	95	105	113	121	113	112	133	126	134	135	129	125	117	121	112	112	90	104	126	117	1
30	✓	✓	✓	108	108	108	98	104	138	159	147	145	162	160	148	142	134	126	128	126	124	121	112	107	95	104	150	127	0
31	✓	✓	✓	184	149	147	147	168	194	183	166	147	145	147	139	139	139	138	138	134	124	120	117	117	124	120	117	143	0
MEANS * 29 DAYS				139	148	151	154	166	174	199	213	203	194	187	175	167	162	157	153	146	139	136	132	128	123	126	130	158	
MEANS † 17 DAYS				142	153	159	164	179	194	215	229	217	210	200	188	177	170	159	153	146	137	130	124	123	120	125	132	164	
MEANS ‡ 13 DAYS				152	166	174	178	195	209	231	244	225	215	204	188	177	168	158	152	144	138	133	126	125	124	132	139	171	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 429

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	136	121	103	113	107	84	80	92	89	93	83	87	92	97	99	103	93	94	107	104	108	114	109	121	101	0
2	✓	✓	✓	117	121	113	89	80	76	78	85	83	81	80	74	91	92	97	86	91	90	95	100	99	99	103	108	93	0
3	✓			124	118	110	148	128	86	70	69	67	78	91	86	82	83	84	78	89	86	97	84	95	94	99	94	93	0
4	✓	✓	✓	105	108	105	84	67	55	48	52	61	63	66	68	70	70	81	72	72	57	58	64	83	103	111	134	77	0
5	✓	✓	✓	126	93	80	66	51	40	42	47	56	68	70	68	67	63	66	66	72	70	[95	102	87	93	110	149]	77	0
6				[155	132]	—	—	—	—	—	—	81	79	79	72	73	80	80	82	86	91	93	100	—	—	—	[144]		0
7				[132]	—	—	—	—	—	—	[111	97]	93	81	88	89	99	89	89	95	89	91	94	102	105	111	120		0
8	✓	✓	✓	128	128	152	121	103	[90	155]	88	89	81	93	89	91	89	89	95	89	94	95	94	79	79	70	71	98	0
9	✓			88	84	146	120	117	103	106	103	81	77	75	80	84	77	69	71	70	71	78	80	75	93	102	106	90	0
10	✓	✓	✓	119	124	111	101	109	93	86	67	46	47	61	64	66	74	74	85	85	84	80	83	95	89	[102	146]	87	0
11	✓	✓		[155	156	151	136]	91	74	60	55	52	56	61	63	70	71	70	80	74	73	65	74	75	81	85	89	84	0
12				86	77	66	64	57	51	51	61	66	69	66	74	70	70	72	70	≷ 42	Z	50	24	47 ≶	62	63	72		1
13				78	86	—	—	—	—	—	—	91	71	62	61	62	60	72	78	80	71	80	82	89	114	113	116		0
14	✓	✓	✓	113	110	130	121	108	91	85	70	86	66	80	89	103	98	97	89	89	98	105	101	94	95	87	95	96	0
15	✓	✓	✓	100	94	76	86	90	77	83	74	80	84	83	86	101	95	110	108	98	93	96	95	[119	118	122	113]	95	0
16				[132]	103	83	—	—	—	76	81	84	87	86	95	97	100	132	102	88	79	[121	117]	102	87	104	(112)		0
17				—	—	—	—	—	—	56	52	55	49	50	56	56	70	65	65	73	69	72	80	[103	134	141	126]		0
18	✓			[130	136	133	131	133	188	149	118]	97	91	96	97	103	117	125	120	118	103	111	125	121	111	131	141	122	0
19	✓			135	155	136	138	124	111	118	91	89	78	74	86	70	70	85	85	83	77	89	81	76	97	104	123	99	0
20	✓	✓	✓	121	132	107	103	95	88	81	77	72	72	83	81	86	88	86	81	89	80	88	89	95	99	102	90	91	0
21	✓	✓	✓	90	92	98	95	87	82	84	83	77	76	83	79	75	78	79	81	89	88	91	84	80	84	103	112	86	0
22	✓			113	112	108	108	103	98	61	49	46	44	50	55	62	75	63	68	75	65	[77	117	88	115	139	133]	84	0
23	✓	✓	✓	[127	136	128	106	90	83]	55	45	47	54	62	66	65	70	78	70	64	70	77	81	103	127	150	155	88	0
24	✓	✓	✓	148	147	118	107	87	69	54	47	61	60	63	70	69	61	70	68	75	62	79	86	84	94	91	80	81	0
25	✓	✓	✓	78	79	80	70	64	56	50	46	50	65	62	66	76	77	72	79	72	70	79	96	99	108	113	[122]	76	0
26	✓			[136	112	106]	82	70	83	67	80	74	77	85	94	110	93	98	103	103	97	107	107	107	108	110	110	97	0
27	✓			108	114	136	112	112	79	102	95	94	92	85	89	95	102	93	97	117	106	108	120	127	127	122	110	106	0
28	✓			121	115	134	117	100	82	108	98	85	87	90	87	92	103	103	106	103	100	97	109	113	127	128	135	106	0
29	✓			126	133	140	139	117	102	96	106	99	93	94	98	103	93	104	118	119	112	118	102	(117	126)	121	103	112	0
30	✓	✓	✓	121	150	149	137	126	121	98	108	88	94	94	90	101	93	93	106	93	96	97	108	94	95	118	133	108	0
31																													
MEANS * 24 DAYS				119	120	119	110	98	88	84	77	74	74	78	80	84	85	87	88	88	85	91	95	96	103	110	116	94	
MEANS † 15 DAYS				119	119	113	102	90	79	76	69	69	71	75	76	82	81	84	85	83	81	87	91	93	99	105	115	89	
MEANS ‡ 14 DAYS				116	117	111	100	90	79	77	70	70	72	76	77	82	82	85	85	84	82	89	92	94	100	106	116	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 430

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	748.1	17.0	42	24.4	5.3		11.6	SSE	2	SE	6	SW	3	SSW	5	ASt; Cu	0- 1	ASt	0- 1	Dew early
2	746.3	18.1	49	22.2	7.0		4.4	SSW	1	S	9	S	8	SSW	6	StCu	6- 9	StCu	6- 1	Clear sky at night
3	746.4	17.0	44	25.4	8.7		11.9	S	3	ESE	11	ESE	11	SSE	4		0	Ci; CiSt	1- 3	Dew early; thin haze over part of sky in am
4	744.2	23.0	30	30.3	9.8		10.4	SSE	4	ENE	9	ENE	2	S	3	Ci; CiSt	1- 3	Ci; CiSt	4- 8	
5	739.3	28.2	22	35.5	11.6		9.7	S	3	NE	7	SW	11	SSW	6	Ci; CiSt; Cu	1- 3	Ci; Cu	1- 3	Clear at night
6	741.4	19.8	64	25.4	13.6		8.9	SW	6	SW	6	SSW	7	SSW	4	Ci; StCu	6- 8	Ci	4- 8	
7	742.7	19.2	68	28.3	11.6		8.4	SSW	3	SSE	2	W	4	SSW	4	Ci; ACu; StCu	6- 8	Ci; ACu	6- 1	
8	741.0	20.0	55	23.1	8.0		11.6	SSW	2	SW	5	WSW	12	WSW	2	CiSt; ASt; ACu; Cu	1- 6	ACu; Cu	7- 8	Dew early
9	743.4	17.5	61	21.2	12.0	0.01	5.7	WSW	3	SW	9	SW	10	SSW	7	Cu; StCu; CuNb	7-10	Cu; StCu	7-10	
10	745.7	17.6	60	24.4	9.2		9.5	SSW	4	SSE	10	S	4	S	7	ACu; Cu; StCu	6- 9	Cu; StCu	6- 1	
11	743.9	22.5	37	29.2	8.9		12.2	S	4	E	8	E	6	SE	5		0		0	Dew early
12	739.4	29.3	21	35.2	12.5		10.7	SSE	3	NE	9	N	1	NE	1	ACu; Cu; StCu	1- 6	ACu; Cu; StCu	6- 3	Distant thundershower in N at 18h
13	735.4	21.5	64	26.1	15.3		9.3	SSW	5	WSW	5	WSW	12	SW	11	Ci; CiSt; ACu; StCu	10- 3	Ci; CiSt; ACu; StCu	3- 8	
14	738.7	17.4	59	21.7	13.7		1.6	SW	5	WSW	6	WSW	8	SW	2	CiSt; Cu; StCu	7-10	StCu; Cu	8- 4	Clearing in evening
15	741.6	19.6	52	24.4	8.7		8.7	WSW	1	WSW	6	SW	10	SSW	2	FrCu; StCu	3- 8	FrCu	8- 3	
16	744.0	19.0	49	26.6	7.0		12.2	SW	2	SE	9	SSE	3	S	6	CiSt; ASt; Cu	1- 3	CiSt	1- 3	Dew early
17	742.1	22.4	43	33.2	9.8		12.0	S	2	ESE	8	WSW	1	S	4		0	ACu; Ci	1- 3	Dew early; thin haze in part of sky in am
18	738.9	23.5	55	28.7	13.6		11.7	SSW	5	SSW	4	SW	11	SW	7	Ci; ACu; Cu	1- 3	Ci; ACu; ASt	1- 3	
19	740.2	21.0	52	26.7	11.7		6.1	WSW	1	SSE	1	WSW	11	SSW	9	ASt; ACu; FrCu	7- 8	ASt; StCu	4- 6	
20	743.1	17.0	52	22.2	11.8		5.5	SSE	10	SE	15	SSE	12	S	8	Cu; StCu	7-10	Ci; Cu	4- 6	
21	745.7	15.5	40	23.3	8.4		12.3	SE	8	ESE	17	ESE	11	S	7		0		0	Thin haze over part of sky at 9h
22	746.0	23.1	30	28.9	8.5		12.5	S	3	E	5	ESE	4	S	8	Ci; Cu	1- 6	Ci; Cu	6- 1	Clear at night
23	745.1	26.7	23	32.6	9.7		11.2	S	2	ENE	6	W	1	S	8	CiSt	1- 3	Ci	1- 3	Clear at night
24	743.2	30.7	17	35.9	13.8		12.2	S	4	NE	8	NE	3	S	5	Ci	1- 3	Ci	1- 3	Clear at night
25	739.7	33.5	15	38.1	12.0		12.4	..	0	NNE	7	W	20	SSW	3	Ci; Cu	1- 3	Cu; StCu	1- 3	
26	741.7	16.6	59	22.7	14.2		5.0	SSW	5	SSW	10	S	5	S	8	Cu; StCu	10	Cu; StCu; Ci	10- 4	Cloudless at night
27	740.6	19.3	49	24.8	6.7		12.4	S	3	S	9	SSW	9	SSW	5	CiSt; ACu; Cu	3- 1		0	
28	741.0	20.5	52	28.4	5.7		9.1	SSW	4	SSE	8	SW	1	S	5	Ci	2- 6	Ci; CiSt	7- 8	
29	738.4	20.0	62	23.5	11.3		2.7	S	2	SSW	2	WSW	9	SW	5	CiSt; ACu; ASt; StCu	7-10	CiSt; ACu; ASt; StCu	7- 4	
30	742.3	16.2	45	21.1	12.1		10.3	SSW	5	SSW	13	SSW	12	S	7	Ci; ACu; Cu; StCu	8- 3	Ci; ACu; Cu	3- 1	Dew early
31																				
SUM						0.01														
MEAN	742.3	21.2	46	27.1	10.4		9.4		3.5		7.7		7.4		5.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 431

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	170	178	188	180	183	199	218	199	174	173	174	167	168	161	130	158	155	145	145	142	142	148	149	155	167	0
2	✓	✓	✓	173	184	193	202	203	218	213	190	174	167	168	164	149	(148)	142	142	135	130	133	136	148	149	148	148	165	0
3				149	151	145	126	139	184	216	213	215	203	183	171	164	161	155	145	⌈116⌋	132	141	144	146	158	158	160		0
4	✓	✓	✓	171	186	209	258	304	348	364	344	290	258	245	218	197	188	184	177	174	184	174	174	183	177	145	144	221	0
5	✓	✓	✓	161	194	232	276	332	357	358	315	246	213	191	184	174	171	191	⌈171	183	180	120	122	120	112	116	126⌋	202	0
6				—	—	—	—	—	—	—	—	129	132	144	145	146	149	155	151	149	149	144	141	130	130	130	⌈117⌋		0
7	✓			⌈110	110	114	106	120	109	107	116	116⌋	130	145	154	158	164	168	155	142	138	141	142	145	157	158	160	136	0
8	✓	✓	✓	145	145	132	141	145	⌈132	112⌋	164	155	149	145	144	139	(130)	136	142	141	145	144	142	170	177	193	202	149	0
9				202	—	—	—	—	—	—	144	155	144	149	146	145	145	155	149	154	148	145	141	139	145	142	142		0
10	✓	✓	✓	148	160	160	160	146	149	161	175	191	199	199	175	160	146	114	100	102	113	114	112	120	129	⌈120	112⌋	144	0
11	✓	✓		⌈102	128	130	149⌋	188	232	265	287	289	271	229	207	199	187	178	173	174	170	178	170	184	199	207	210	196	0
12	✓			218	241	280	296	310	334	315	257	218	184	174	175	171	170	164	160	160	≷ 97	164	178	197≶	184	191	204	210	1
13	✓			203	184	165	119	102	103	104	116	135	144	145	160	164	161	148	133	129	128	120	120	114	116	120	129	136	0
14	✓	✓	✓	128	126	128	128	128	128	130	130	141	135	135	138	145	145	145	145	141	120	130	145	154	174	203	200	143	0
15	✓	✓	✓	187	197	222	212	191	199	178	160	145	142	142	130	125	(120)	116	116	120	122	128	126	126	132	145	154	151	0
16	✓			145	164	188	199	177	174	164	146	155	149	136	130	117	125	126	125	144	145	⌈104	110⌋	130	135	138	126	144	0
17	✓			129	129	126	125	138	175	237	249	246	245	244	231	207	188	184	173	162	145	130	125	⌈117	104	102	116⌋	168	0
18				128	133	146	145	130	⌈112	102	132⌋	142	132	135	135	145	142	130	145	146	148	145	139	129	120	120	126		0
19				128	130	132	138	135	136	160	145	148	145	145	145	146	155	126	119	129	116	129	141	141	138	136	142		0
20	✓	✓	✓	145	146	173	171	162	170	174	160	158	157	145	120	120	112	116	116	113	125	128	126	141	144	148	174	144	0
21	✓	✓	✓	174	174	174	180	188	191	190	168	160	158	142	130	117	114	116	116	109	100	102	119	133	139	139	133	144	0
22				128	122	128	129	130	152	232	304	319	284	237	207	206	188	165	160	145	148	⌈135	83	119	109	102	102⌋		0
23	✓	✓	✓	⌈110	116	119	129	148	155⌋	267	342	345	277	226	199	190	183	181	174	174	164	146	141	122	116	106	112	177	0
24	✓	✓	✓	122	130	148	173	203	226	291	293	252	213	190	168	155	160	145	142	141	141	144	145	161	160	160	160	176	0
25	✓	✓	✓	165	174	170	188	188	212	246	287	273	174	141	136	126	117	114	119	119	116	132	145	154	148	132	⌈119⌋	162	0
26				⌈116	110	116⌋	125	133	130	133	132	113	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
27				—	—	—	—	—	—	—	—	130	130	144	142	128	130	122	129	135	133	136	136	146	154	160	164		0
28				170	175	168	187	194	209	160	146	148	149	149	154	149	145	157	155	145	145	149	149	155	151	146	144		0
29				155	151	145	149	·161	173	164	155	160	146	148	145	145	(144)	135	144	136	130	129	132	142	133	128	120		0
30	✓	✓	✓	116	133	144	142	136	139	135	130	141	142	136	123	122	122	128	125	141	136	130	129	136	132	129	120	132	0
31																													
MEANS * 20 DAYS				151	160	170	177	185	198	211	211	200	184	173	163	155	151	146	143	143	137	135	137	145	147	147	150	163	
MEANS † 15 DAYS				148	158	168	179	190	204	220	223	209	189	174	160	152	147	142	141	141	139	137	138	146	149	149	151	165	
MEANS ‡ 14 DAYS				151	160	171	181	190	202	217	218	203	183	170	157	149	144	140	139	139	137	134	136	144	146	145	147	163	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 432

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1932.

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	111	120	120	116	124	157	194	192	171	162	158	153	156	158	126	151	138	124	112	111	108	109	119	114	137	0
2	✓	✓	✓	123	116	133	151	148	166	167	164	166	164	165	169	142	142	(126)	128	123	116	115	124	124	127	123	115	139	0
3				—	—	—	—	—	—	—	—	—	222	198	179	171	166	152	147	⌈108⌋	124	119	124	119	124	124	133		0
4	✓	✓	✓	142	139	161	213	285	318	359	359	306	270	250	226	198	188	174	171	164	167	147	148	152	146	112	111	204	0
5	✓	✓	✓	126	166	214	260	318	345	339	306	246	213	192	184	173	160	193	⌈160	166	167	111	105	97	88	84	73⌋	187	0
6				⌈ 80	80	84	84	97	104	107	104⌋	111	120	133	138	142	138	142	141	134	130	120	111	105	104	⌈ 88	84⌋		0
7	✓			⌈ 81	84	88	74	84	84	84	88	97⌋	111	128	134	141	146	153	148	128	124	124	116	116	123	115	116	112	0
8	✓	✓	✓	105	101	84	88	93	⌈ 96	74⌋	158	142	142	138	133	130	135	(128)	130	124	124	116	112	124	147	171	180	124	0
9				178	142	101	104	105	109	122	126	134	138	151	151	147	147	150	138	138	134	133	123	124	124	112	99		0
10	✓	✓	✓	93	99	126	134	120	128	147	176	202	212	203	184	164	141	101	86	93	101	100	101	104	116	⌈ 97	80⌋	130	0
11	✓	✓		⌈ 74	81	92	103⌋	153	202	258	295	296	281	249	218	207	198	187	176	176	169	166	142	156	167	184	187	184	0
12	✓			190	214	251	265	281	306	303	258	210	182	176	176	164	162	156	147	156	≷135	155	188	178≶	164	173	185	199	1
13	✓			194	170	142	97	88	86	93	103	124	134	138	152	158	157	142	124	122	118	109	99	97	97	84	93	122	0
14	✓	✓	✓	93	92	84	86	90	96	99	111	111	120	123	124	133	130	126	128	120	103	108	105	96	119	156	147	112	0
15	✓	✓	✓	130	147	180	162	146	157	150	128	127	126	127	120	120	101	(97)	99	101	107	101	99	⌈ 82	82	86	107⌋	120	0
16	✓			⌈ 88⌋	109	134	146	126	120	151	151	156	152	133	112	99	96	99	96	122	126	⌈ 86	89⌋	107	111	109	97	117	0
17	✓			⌈ 94	86	80	77	99⌋	151	244	270	273	176	262	242	209	187	175	165	152	138	123	112	⌈ 97	86	77	85⌋	152	0
18				—	—	—	—	—	—	—	—	119	120	118	124	134	130	115	124	128	137	126	118	101	97	100	93		0
19				—	—	—	—	—	—	—	—	120	123	124	127	134	142	124	119	111	111	120	124	116	115	114	108		0
20	✓	✓	✓	114	108	147	143	138	151	161	167	167	174	152	124	111	111	107	105	99	120	120	112	115	115	118	135	130	0
21	✓	✓	✓	143	151	155	158	169	176	189	176	175	175	158	139	116	105	103	100	90	84	89	105	111	120	111	101	133	0
22				103	97	—	—	—	—	—	285	319	295	249	222	214	201	(162)	147	138	138	⌈127	73	105	89	74	80⌋		0
23	✓	✓	✓	⌈ 81	84	84	97	115	138⌋	263	351	331	281	230	202	189	184	171	169	162	146	128	120	96	90	73	75	161	0
24	✓	✓	✓	84	90	107	126	143	189	278	295	245	197	185	158	151	152	141	128	118	128	119	124	138	133	128	138	154	0
25	✓	✓	✓	134	133	135	164	176	202	238	292	270	164	130	138	131	111	93	99	107	108	123	120	135	109	(123)	⌈ 97⌋	147	0
26				⌈ 80	80	84⌋	—	—	—	—	—	104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
27				—	—	—	—	—	—	—	—	119	118	127	124	111	109	108	111	115	112	111	100	97	100	92	100		0
28				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	109	105		0
29				99	107	107	—	—	—	—	—	—	141	151	151	139	133	(134)	133	124	115	111	114	111	111	101	111		0
30	✓	✓	✓	107	100	101	103	101	109	115	124	138	147	142	137	126	126	134	120	137	128	123	115	123	122	107	97	120	0
31																													
MEANS * 20 DAYS				115	120	131	138	150	168	195	208	198	179	172	161	151	144	137	132	130	127	119	117	118	119	118	117	144	
MEANS † 15 DAYS				111	115	128	140	155	174	202	220	206	189	173	161	150	143	134	130	128	126	119	116	117	119	119	117	146	
MEANS ‡ 14 DAYS				113	118	131	143	155	172	198	214	200	182	168	156	146	139	130	127	124	123	115	114	115	116	115	112	143	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 433

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		136	149	137	111	92	79	76	70	75	78	73	78	81	97	99	97	93	94	101	115	147	163	174	191	109	0
2	✓	✓		190	192	174	132	116	98	76	52	45	48	56	64	75	71	70	74	79	69	93	118	125	117	130	125	100	0
3	✓	✓	✓	137	147	150	140	73	83	70	59	55	51	51	52	56	67	67	71	78	80	88	99	101	(101	105)	105	87	0
4	✓	✓		112	134	107	79	80	75	97	106	93	84	78	78	N 31	78	94	78	78	89	103	126	126	125	125	131	96	1
5	✓	✓	✓	132	163	134	139	117	97	78	67	81	75	78	84	90	89	120	121	120	112	118	121	130	131	125	127	110	0
6	✓	✓	✓	140	140	148	138	139	129	112	82	65	61	59	56	57	57	61	64	66	84	87	92	108	125	122	131	97	0
7	✓	✓	✓	123	112	118	99	61	71	78	54	47	47	56	61	64	59	76	71	87	75	75	84	83	98	104	115	80	0
8	✓	✓	✓	123	126	142	143	148	145	116	104	93	90	86	76	75	80	93	95	90	98	94	123	121	(123)	120	118	109	0
9	✓	✓	✓	112	97	92	71	76	75	89	91	76	73	67	70	79	82	95	103	92	93	97	107	112	111	127	116	92	0
10				93	74	48	64	53	71	89	87	76	78	72	74	87	94	85	97	104	123	121	126	114	84	—	—		0
11				—	—	—	—	—	—	—	87	86	86	92	93	100	118	108	109	103	111	106	113	103	117	106	96		0
12	✓	✓	✓	97	96	88	84	76	42	61	70	64	61	66	71	81	97	93	107	105	120	112	122	109	116	111	108	90	0
13	✓	✓	✓	107	107	109	111	103	97	88	81	75	78	75	96	79	89	97	92	97	106	123	109	115	120	117	124	100	0
14	✓	✓		126	120	123	129	127	121	116	99	80	83	87	92	89	94	99	97	92	113	113	120	124	154	177	117	112	0
15				—	—	—	—	84	84	73	65	65	61	65	67	73	75	72	67	71	71	79	86	78	94	98	114		0
16	✓	✓		87	84	70	64	54	38	46	51	81	79	76	65	71	98	84	N 61	N 68	48	78	94	107	102	118	94	76	1
17	✓	✓	✓	80	88	91	92	89	81	87	79	84	85	85	81	88	74	61	73	74	73	88	98	107	104	87	78	84	0
18	✓	✓		80	66	69	55	71	54	N 28	48	62	58	67	69	56	68	N 69	N 22	N 16	68	93	138	138	148	140	116	75	1
19	✓	✓		75	96	73	N 84	112	88	79	88	89	88	93	95	91	98	102	109	107	102	106	112	118	117	126	143	100	1
20	✓	✓		157	163	150	140	127	120	103	94	82	85	87	100	98	95	101	102	110	112	117	121	119	125	140	145	116	0
21				150	149	162	—	—	—	—	—	106	93	95	104	105	108	107	112	103	97	117	129	144	152	—	—		0
22				—	—	—	—	101	98	117	84	83	81	79	78	84	87	94	101	99	98	99	119	127	127	121	99		0
23	✓	✓	✓	84	81	84	84	85	90	71	42	56	73	78	85	90	87	92	94	106	99	107	105	107	98	90	82	86	0
24	✓	✓	✓	88	86	68	66	71	67	56	61	70	70	74	74	77	78	81	76	86	84	90	71	77	78	85	73	75	0
25	✓	✓		75	61	63	61	56	52	61	74	85	84	92	86	89	101	106	114	97	105	106	79	87	188	223	182	97	0
26	✓	✓		201	192	184	145	139	118	107	92	78	64	67	87	75	78	69	70	77	76	75	86	102	117	115	113	105	0
27	✓	✓	✓	89	76	78	76	69	59	56	54	52	52	51	54	64	79	75	75	73	93	83	98	110	133	117	105	78	0
28	✓			82	81	73	70	62	58	56	46	43	39	44	47	50	52	51	55	50	57	79	95	98	92	89	100	65	0
29	✓	✓	✓	98	103	106	112	104	120	102	79	72	58	54	61	65	70	76	75	88	87	85	85	94	100	104	103	88	0
30	✓	✓	✓	135	156	125	93	87	85	77	61	64	65	67	69	71	64	72	77	79	80	89	88	111	123	123	132	91	0
31	✓	✓		134	107	89	88	83	71	69	61	71	70	72	87	79	75	98	80	85	87	73	85	146	229	262	145	102	0
MEANS * 26 DAYS				115	116	109	100	93	85	79	72	71	69	71	75	74	80	85	83	84	89	95	104	112	125	129	120	93	
MEANS † 25 DAYS				117	118	111	101	94	86	80	73	72	70	72	76	75	81	86	84	86	90	96	104	113	126	131	121	94	
MEANS ‡ 14 DAYS				110	113	110	103	93	89	82	70	68	67	68	71	74	77	83	85	89	92	95	100	106	112	110	108	91	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 434

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1932

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	744.9	18.6	34	27.3	7.6		(12.7)	SSE	6	E	12	E	5	S	8	Cu	1- 3	Cu	1- 3	
2	738.5	27.1	21	35.6	8.0		12.5	S	4	ESE	2	ESE	2	SSW	7		0		0	Fire in E in am
3	735.7	24.6	33	32.8	12.2		12.8	SSW	4	ESE	2	SW	5	SSW	5	CiCu; ACu	1- 6	CiCu; ACu	1- 6	
4	736.8	22.4	51	29.6	14.5		10.0	SSW	6	SW	3	SW	7	S	9	ASt; ACu	1- 3		0	
5	738.0	21.3	53	26.9	14.8		8.6	S	7	S	10	SSE	6	S	12	Ci; ACu; ASt; FrCu	4- 8	Ci; ACu; ASt; FrCu	8- 3	
6	739.5	22.5	43	32.0	12.0		12.7	S	6	ESE	10	SSE	4	S	10	ASt	1- 3		0	
7	737.8	29.5	42	35.4	13.2		12.7	S	4	ENE	4	WSW	10	SSW	4	Cu	1- 6	Cu; CuNb	4- 6	Threatening in pm
8	738.7	23.5	53	29.2	13.5		11.7	SSW	2	SW	2	SW	9	SSW	4		0		0	
9	740.2	22.0	51	26.3	10.0		11.1	SW	1	SSW	4	WSW	9	SW	4	ACu; Cu; StCu	7- 3	ACu	3- 1	
10	738.6	18.5	51	23.0	10.0		5.4	WSW	2	W	9	SW	18	SW	3	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Occasional showers
11	739.8	16.0	51	22.4	7.1	T	12.0	WSW	1	WSW	5	SW	9	SSW	6	Ci; StCu	7-10	Ci; StCu	4-10	
12	741.9	19.5	62	27.2	11.4		7.8	WSW	1	S	3	SSW	4	SSW	8	StCu	7-10	Ci; StCu	4- 6	
13	741.3	23.2	45	31.4	11.3		12.6	S	5	SSE	5	S	4	S	9	Ci	3- 6	Ci	6- 1	
14	741.2	23.0	47	32.9	11.3		12.7	SSE	11	SSE	8	SSE	9	S	10		0	Ci	1- 3	
15	740.2	24.5	43	35.7	13.8		10.3	SSE	5	ESE	12	E	6	SE	6	CiSt	1- 6	CiSt	6- 8	
16	737.6	28.6	42	31.3	21.2		0.5	ESE	2	W	2	NNE	12	NE	2	CiSt; ACu; ASt; Nb	7-10	CiSt; ACu; Nb	7-10	Rain 16^h to 17^h
17	738.2	24.4	55	27.6	16.1	0.08	2.6	E	3	E	14	E	12	NE	7	CiCu; ACu	6- 8	CiCu; ACu; StCu	4- 6	
18	735.3	23.0	65	26.7	19.1	T	0.5	E	4	ENE	4	S	6	S	8	ACu; Cu; StCu; Nb	9-10	ACu; Cu; StCu; Nb	9-10	Occasional drops of rain; cleared rapidly in evening
19	737.5	22.4	65	29.2	16.3		9.1	SSW	6	SSE	3	SSW	5	SSW	8	Cu; StCu	6- 8	Cu; StCu	6- 1	
20	739.8	21.5	47	29.0	10.1		13.0	S	3	SSE	10	SSE	7	S	10	CiSt	10- 7	CiSt	6- 4	Dew early
21	739.4	24.9	49	32.4	12.0		12.8	S	3	SSE	3	SSW	9	S	11		0		0	Thin haze over part of sky
22	743.7	21.5	43	29.2	12.2		12.8	S	10	ESE	17	ESE	15	ESE	8		0		0	Thin haze over part of sky
23	745.4	19.5	35	29.8	11.1		12.7	ESE	19	E	21	E	15	ESE	5		0		0	Thin haze over part of sky in am
24	743.1	26.8	24	33.7	15.8		12.8	E	5	ENE	15	ENE	9	..	0		0		0	Thin haze over part of sky in am
25	740.2	29.0	22	35.9	15.0		12.2	..	0	NE	8	SE	3	S	5		0		0	Thin haze over part of sky; smoke in SW in evening
26	738.1	30.6	23	37.4	13.7		11.9	S	3	ESE	4	SSE	3	S	7		0	ACu	1- 3	Thin haze over part of sky
27	738.3	28.5	33	39.6	17.5		12.2	ESE	10	E	9	NW	1	S	5		0	Ci; ACu	1- 3	Thin haze over part of sky in am
28	736.8	32.2	22	41.8	19.6		12.2	SE	6	E	6	SW	3	S	7		0	ACu; ASt	1- 3	Thin haze over part of sky in am
29	737.3	29.0	40	37.7	16.7		12.4	S	2	S	6	S	8	SSW	9	ASt	1- 3	ASt	1- 3	Thin haze over part of sky
30	740.1	23.0	42	33.2	15.8		12.5	SE	5	ESE	12	ESE	10	S	4		0		0	Thin haze over part of sky
31	739.1	28.2	32	38.2	17.1		12.4	ESE	8	E	9	ENE	4	SW	4		0		0	Thin haze over part of sky; smoke in W in early evening
SUM						0.08														
MEAN	739.5	24.2	42	31.6	13.6		10.5		5.0		7.5		7.4		6.6					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 435

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		130	124	147	176	202	216	238	222	214	208	195	182	171	172	165	165	156	154	156	⌈156	122	118	114	110⌋	167	0
2	✓	✓		⌈110	112	132	147⌋	164	176	224	296	330	300	270	210	194	184	180	180	165	156	⌈136	106	117⌋	128	124	130	178	0
3	✓	✓	✓	126	129	130	136	146	164	201	225	249	261	254	228	214	190	182	165	159	152	144	136	144	146	150	148	174	0
4	✓	✓		123	116	111	99	105	99	94	114	124	134	140	136	134	136	138	153	160	148	135	130	126	122	120	120	126	1
5	✓	✓	✓	116	110	116	120	120	120	126	134	147	165	160	159	165	152	129	118	126	120	126	135	135	134	130	126	133	0
6	✓	✓	✓	122	118	114	111	118	120	140	186	206	208	208	195	170	165	164	160	150	116	118	120	129	120	120	118	146	0
7	✓	✓	✓	126	129	123	128	124	135	176	228	272	243	214	196	180	170	180	174	⌈129⌋	182	184	190	186	160	159	146	172	0
8	✓	✓	✓	134	134	120	96	92	94	96	106	129	130	140	140	136	135	135	136	144	147	146	141	148	144	150	150	130	0
9	✓	✓	✓	150	165	174	184	186	177	165	140	150	150	150	150	147	144	146	144	140	134	129	130	135	138	118	118	148	0
10	✓			124	134	144	144	168	156	135	132	134	136	135	140	141	141	134	130	118	⌈104	102⌋	118	147	141	152	150	136	0
11	✓			150	154	171	186	219	220	194	160	152	150	154	150	148	147	148	144	147	150	154	152	156	154	168	189	163	0
12	✓	✓	✓	183	196	206	204	201	216	212	195	186	178	178	178	171	164	152	134	126	132	129	129	152	144	144	144	169	0
13	✓	✓	✓	140	138	129	124	132	136	146	156	180	178	165	154	150	(135)	140	129	126	⌈100	106⌋	134	147	150	144	130	140	0
14	✓	✓		130	129	126	114	129	129	134	160	184	184	178	165	154	153	150	150	153	129	118	111	124	⌈114	105	105⌋	139	0
15	✓			⌈114	111	122	165⌋	190	194	206	222	230	234	226	225	216	213	206	204	192	184	174	171	171	184	189	165	188	0
16	✓	✓		192	225	261	274	294	320	250	165	159	156	≷150	111	136	159	141≶	152	≷182	182≶	183	166	178	180	178	186	191	1
17	✓	✓	✓	204	210	214	195	195	210	210	201	198	183	180	176	174	174	174	183	188	186	183	171	188	195	204	218	192	0
18	✓	✓		228	226	236	≷255≶	255	260	254	255	228	195	182	180	174	170	171	174	170	195	⌈159	116	122	122	116	110⌋	190	1
19	✓	✓		⌈108	105	105	114	129	140⌋	148	152	166	164	156	159	162	165	168	172	170	150	138	146	144	138	134	136	145	1
20	✓	✓		141	138	135	135	129	128	129	134	148	159	152	129	144	159	(152)	150	147	141	148	146	150	148	⌈135	135⌋	142	0
21	✓			⌈126	120	118	112	114	108	111	124⌋	140	147	147	138	135	130	135	⌈129⌋	150	162	154	135	⌈126	120	111	112⌋	129	0
22	✓			⌈116	114	117	120	124	116	144⌋	170	153	129	117	105	106	110	114	116	111	99	99	111	135	146	153	162	124	0
23	✓	✓	✓	165	168	176	178	184	189	196	195	206	196	198	194	184	176	164	140	148	164	170	168	192	206	225	260	185	0
24	✓	✓	✓	276	290	306	318	296	294	330	297	220	195	180	174	178	171	170	164	159	158	164	176	180	206	222	279	225	0
25	✓	✓		296	318	320	324	324	315	304	240	200	178	174	171	170	160	153	135	124	110	120	114	⌈129	75	70	90⌋	192	0
26	✓	✓		⌈ 90	94	105	120	120	135	153⌋	166	183	204	194	168	150	153	146	150	⌈130	104	104	111	114	100	104	111⌋	134	0
27	✓	✓	✓	⌈144⌋	180	180	194	204	207	225	238	231	212	212	208	189	(171)	136	134	134	135	135	122	⌈134	114	124	147⌋	171	0
28				183	212	219	220	219	225	249	261	273	255	213	171	159	148	129	126	⌈ 90	94	108	90	99	112⌋	123	120		0
29	✓	✓	✓	135	144	142	141	135	124	130	160	165	180	180	162	154	146	150	120	120	120	134	135	140	134	122	120	141	0
30	✓	✓	✓	⌈116	105	130⌋	176	178	180	189	206	195	186	180	160	141	129	118	111	114	111	112	120	⌈117	116	120	114⌋	143	0
31	✓	✓		⌈126	174⌋	206	201	200	208	220	237	246	238	225	202	184	178	177	171	172	171	170	⌈170	92	70	63	104⌋	175	0
MEANS * 30 DAYS				148	154	161	166	173	176	183	187	191	186	180	168	162	158	154	150	147	143	141	139	143	139	139	144	160	
MEANS † 25 DAYS				152	159	166	171	174	180	188	192	197	191	185	171	165	160	155	151	148	144	142	139	142	137	136	142	162	
MEANS ‡ 14 DAYS				153	158	161	165	165	169	182	190	195	190	186	177	168	159	153	144	140	140	141	143	152	150	152	158	162	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 436

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1932

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		104	96	110	143	186	214	242	225	222	214	209	187	178	168	164	162	155	147	143	[118	105	94	86	80]	156	0
2	✓	✓		[80	79	101	128]	143	162	212	314	352	327	284	227	201	192	191	187	168	167	[133	94	117	117	110	110]	175	0
3	✓	✓	✓	[91	94	104	108]	132	154	204	239	265	275	272	255	235	203	188	171	159	154	142	124	128	124	108	104	168	0
4	✓	✓		110	98	97	89	89	86	86	103	116	128	136	135	146	136	132	155	161	146	126	114	110	107	104	104	117	1
5	✓	✓	✓	104	90	98	104	104	110	128	132	146	170	161	163	159	150	117	107	118	118	118	128	126	121	117	110	125	0
6	✓	✓	✓	103	103	91	90	97	101	128	192	226	235	235	219	186	176	(179)	155	150	107	110	118	118	104	100	97	142	0
7	✓	✓	✓	104	105	104	111	104	118	175	241	291	261	235	214	196	183	184	180	[129]	178	176	172	171	145	132	124	168	0
8	✓	✓	✓	107	98	86	76	73	74	77	91	112	118	132	138	140	138	136	136	138	142	136	118	107	90	104	104	111	0
9	✓	✓	✓	118	124	128	143	133	147	147	132	146	143	146	155	151	149	142	138	133	122	114	108	100	107	90	89	129	0
10	✓			90	98	108	114	146	132	114	112	126	133	138	146	145	149	133	132	114	[91	94]	104	107	118	132	118	121	0
11	✓			107	114	124	150	210	204	176	146	140	146	150	149	146	145	146	138	138	132	133	124	129	118	108	143	142	0
12	✓	✓	✓	151	143	167	158	159	174	184	186	188	191	192	194	179	167	150	129	112	118	118	112	132	122	118	118	153	0
13	✓	✓	✓	118	118	107	104	112	122	143	155	176	178	162	140	136	140	119	125	122	[94	93]	121	128	133	132	121	129	0
14	✓	✓		112	118	112	100	104	104	121	159	187	190	180	164	155	158	150	140	158	119	112	108	115	[97	74	76]	130	0
15	✓			[82	77	90	154]	190	199	215	237	247	251	250	242	236	227	214	212	199	190	172	167	172	162	164	126	186	0
16	✓	✓		159	207	235	236	279	322	260	174	159	158	≷150	115	136	140	140≷	151	≷195	196≷	174	146	133	142	143	143	179	1
17	✓	✓	✓	158	167	186	172	175	204	209	211	203	191	194	187	187	183	184	188	187	186	172	154	159	167	186	203	184	0
18	✓	✓		206	211	214	≷243≷	235	245	260	261	222	194	174	166	172	159	170	186	184	187	[149	105	104	98	96	94]	181	1
19	✓	✓		[100	90	91	96	100	110]	128	135	155	151	147	153	151	154	158	159	124	145	132	132	[122	114	114	104]	128	1
20	✓	✓		[100	90	93	98	91	90]	115	126	151	167	149	112	131	155	(155)	138	128	126	132	125	126	125	[108	104]	122	0
21	✓			[91	82	74	67	59	76	94	117]	128	136	133	122	124	119	126	[117]	146	153	146	126	[105	103	94	98]	110	0
22	✓			[96	93	91	104	104	98	128]	176	172	146	122	104	105	111	114	105	114	100	103	108	118	122	143	159	118	0
23	✓	✓	✓	172	176	180	183	187	194	204	211	222	222	222	219	219	191	163	133	146	162	171	171	163	182	206	243	189	0
24	✓	✓	✓	260	280	296	307	295	299	344	315	242	220	199	192	191	186	174	163	158	155	154	159	142	167	188	235	222	0
25	✓	✓		247	298	284	295	296	307	287	242	204	188	178	172	162	146	146	122	108	98	108	107	[98	56	44	59]	177	0
26	✓	✓		[59	73	76	94	103	111	124]	159	186	205	194	164	150	150	146	145	[126	98	96	108	97	87	94	90]	122	0
27	✓	✓	✓	[131]	187	187	200	207	219	235	247	245	226	221	219	195	164	(131)	135	132	112	111	121	[121	96	104	126]	170	0
28				172	204	211	214	231	239	257	286	296	282	234	195	166	149	132	128	—	—	—	—	—	—	—	103		0
29	✓	✓	✓	118	118	122	122	107	103	122	159	170	187	190	168	158	145	150	118	117	118	118	132	131	126	115	108	134	0
30	✓	✓	✓	[94	80	104]	161	172	174	199	222	221	221	206	184	151	136	121	108	118	112	110	108	[94	93	96	90]	141	0
31	✓	✓		[93	140]	206	203	199	210	226	247	255	265	245	214	200	195	184	186	174	161	159	[150	82	55	44	71]	174	0
MEANS * 30 DAYS				122	128	136	145	153	162	176	189	196	195	187	174	167	160	154	147	144	138	132	126	122	116	115	118	150	
MEANS † 25 DAYS				128	135	143	151	155	166	182	195	203	201	193	178	171	163	155	149	144	139	132	126	121	115	113	116	153	
MEANS ‡ 14 DAYS				131	134	140	146	147	157	178	195	204	203	198	189	177	165	153	142	137	134	132	132	130	127	128	134	155	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	83	126	71	90	88	70	74	88	90	96	102	88	97	92	95	91	91	93	93	95	85	88	88	98	90	0
2	✓	✓	✓	89	107	117	126	110	97	88	84	83	80	78	87	87	88	90	92	95	93	99	106	108	101	97	96	96	0
3	✓	✓		90	73	79	91	94	70	78	69	70	64	66	69	70	70	79	81	82	78	89	84	[169	158	164	173]	92	0
4	✓	✓		[158	153	130]	83	74	72	66	62	71	65	63	73	74	85	90	96	90	92	110	93	83	80	72	74	88	0
5	✓	✓	✓	69	59	54	60	54	53	66	64	70	70	78	66	67	73	81	88	82	71	69	56	[85	64]	51	52	67	0
6	✓	✓		62	[70	103	116	102	70]	71	84	84	69	70	74	69	73	84	86	100	115	[145	121	121	125	133	106]	94	0
7	✓			87	102	96	98	84	96	82	83	74	59	52	56	69	66	69	65	(65	65)	65	71	76	79	74	71	75	0
8	✓	✓	✓	56	56	37	34	46	51	72	62	52	61	55	60	64	66	72	77	79	68	[86	100	103	95]	85	74	67	0
9	✓	✓	✓	73	70	64	52	47	47	48	59	88	88	85	84	79	77	74	70	71	68	71	74	79	77	75	65	70	0
10	✓	✓		[85	89	113	135	148	193	193]	71	48	53	56	59	59	59	70	79	79	88	92	96	116	114	100	90	95	0
11				91	[101]	—	—	—	[119	167]	55	47	46	50	56	56	62	≷N 65≶	75	66	[74	90	105	116	122	127	111]		1
12	✓	✓	✓	[96	99	111	116	89]	67	51	47	47	47	46	50	59	60	65	70	79	79	92	110	108	98	108	116	80	0
13	✓	✓		107	106	103	82	66	59	61	65	63	65	69	74	79	87	90	95	97	[153	144	124	128	140	117	119]	96	0
14	✓	✓		[98	68]	75	77	73	66	68	65	71	62	62	62	68	74	74	84	81	84	97	103	[130	216	220	195]	95	0
15	✓	✓		[163	142	167	104]	84	70	53	50	61	78	75	89	77	83	[92	125	161	196	244	277	271	232	162	139]	133	0
16				116	115	110	105	88	≷ 47	88	97	N 50	122	114≶	93	90	87	96	≷ Z ≶	116	108	107	122	130	111	122	129		1
17	✓	✓	✓	131	132	130	143	135	132	96	91	119	113	102	109	110	108	112	122	107	116	116	123	136	129	124	119	119	0
18				126	—	—	—	—	—	—	—	85	116	125	121	111	113	115	118	[134	135	135	150	154	148	138	153]		0
19	✓	✓		[166	179	133	130	122]	94	60	57	56	55	60	63	77	75	84	100	88	92	93	116	111	111	99	91	96	0
20				85	79	74	64	57	49	47	56	57	58	58	62	72	85	90	93	90	96	85	75	68	≷ Z ≶	71	64		1
21				70	[60	56	80	80]	92	80	71	71	71	71	66	73	86	96	98	93	[134	213	185	236	—	123	180]		0
22	✓	✓		[199	172	171	135	117	97	137	135	139	152	138	126	105	122	133]	111	113	119	116	116	129	[135	129	142]	133	0
23	✓	✓	✓	[133	111	97]	89	73	74	96	107	93	88	84	[100	106	113	110]	111	99	109	102	117	125	130	126	117	105	0
24	✓	✓	✓	108	100	110	132	113	102	111	112	87	77	80	96	103	112	110	117	107	96	97	103	110	114	129	134	107	0
25	✓			142	139	141	129	125	111	102	92	70	69	71	79	92	101	101	110	108	[113	117	121	115	115	117	145]	109	0
26	✓	✓		[124	60	85	108	90]	59	43	30	48	56	56	69	71	83	79	74	75	74	79	81	[124	147	132	109]	82	0
27	✓	✓	✓	97	81]	71	60	51	44	45	45	46	47	54	64	79	79	74	80	76	70	66	76	73	74	66	60	66	0
28	✓	✓		65	65	61	70	73	76	74	64	42	49	49	55	60	63	≷N 60≶	60	61	56	39	51	50	56	58	73	60	1
29	✓	✓		74	80	96	92	81	70	64	60	57	64	61	61	66	64	64	64	88	78	63	[60	125	120	101]	48	75	0
30	✓	✓		60	64	60	54	40	46	54	48	60	64	64	66	63	89	≷N 94	-3≶	76	77	60	[125	158	162	144	144]	78	0
31				[116	103	87]	73	66	55	51	52	55	48	≷ Z	Z	93	Z ≶	81	83	92	99	101	111	99	99	101	[N 45]		1
MEANS * 25 DAYS				105	100	99	96	87	79	78	72	72	72	71	75	78	82	86	86	90	94	98	104	117	118	111	106	91	
MEANS † 23 DAYS				104	98	97	95	86	77	77	70	72	72	72	76	78	83	86	86	90	94	98	105	119	120	112	106	91	
MEANS ‡ 10 DAYS				94	94	86	90	81	74	75	76	78	77	76	80	85	87	88	92	89	86	89	96	101	97	95	93	87	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 438

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN FALL	SUN SHINE	02h-03h		08h 09h		14h 15h		20h 21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	736.3	25.0	56	32.2	14.0		12.7	..	0	#	7	SW	8	SSW	5		0	ACu; ASt	1- 3	Thin haze over part of sky at 9h
2	739.8	22.4	52	28.2	14.1		11.4	SSW	1	SSW	9	S	7	SSW	9	Ci; ACu	1- 3	Ci	1- 3	
3	743.4	23.5	42	31.8	13.5		12.2	S	4	ESE	10	SE	7	S	6	Ci; Cu	1- 6		0	
4	744.1	26.7	27	35.6	13.9		12.7	SSE	4	E	6	E	7	SE	4		0		0	
5	741.6	31.3	14	38.4	18.0		11.4	ESE	3	NE	12	NNE	5	WNW	2		0	Cu; StCu	1- 6	Thin haze over part of sky at 9h
6	737.7	31.2	27	34.6	17.5		12.0	NNW	1	NNW	5	W	14	SW	8	ACu; ASt; Cu; StCu	3- 6	Ci; StCu	4- 6	
7	737.8	21.3	58	25.9	15.6		6.5	SW	6	WSW	7	SW	10	WSW	5	CiCu; Cu; StCu	7- 9	CiCu; StCu	8- 1	
8	739.0	21.8	54	26.7	11.4		8.9	..	0	S	6	SSW	8	S	5	ACu; Cu; StCu	8- 6	ACu; Cu; StCu	6- 3	Clearing in evening
9	741.4	20.9	52	28.8	11.1		12.7	SSE	2	SE	7	SE	6	S	6	ACu	0- 1		0	Thin haze over part of sky in am
10	742.1	23.2	31	32.2	11.2		12.6	S	2	E	8	SE	5	S	6		0		0	
11	740.8	28.3	38	35.7	15.0		12.2	SSE	7	ESE	8	SE	2	S	8		0	Ci	1- 6	Thin haze over part of sky in am
12	738.9	28.9	39	38.7	15.9		12.6	S	2	ESE	8	ESE	8	SSE	8	Ci; CiSt; CiCu	4- 6	Ci; CiCu; CiSt	4- 6	
13	737.6	26.1	44	35.3	18.2		12.6	S	4	SE	8	SSE	10	S	8	Ci	1- 3		0	
14	738.9	23.3	46	33.6	16.4		12.6	ESE	11	ESE	10	ESE	5	SSE	3	CiSt	1- 3	CiSt; ASt	4- 8	
15	734.2	30.2	39	36.7	16.8		8.2	S	2	NE	8	SW	14	WSW	7	CiSt; ASt; Cu; StCu	7- 8	ACu	6- 1	
16	735.2	14.7	99	22.8	14.8	0.06	5.9	WSW	2	W	14	WSW	17	WSW	3	StCu; CuNb; Nb	10	StCu; CuNb; Nb	10	Rain at 8h5
17	739.9	21.1	54	24.6	10.4	T	4.6	WSW	1	SW	9	SSW	8	S	3	Cu; StCu	8- 6	Cu; StCu	4- 6	Cleared at night
18	741.9	22.1	57	30.5	13.7		12.5	SSE	3	SE	8	SE	3	S	6	Cu	1- 6	Cu	8- 1	
19	739.7	24.6	38	34.1	12.5		12.2	S	3	ESE	9	E	3	SE	6		0		0	Fire in NW
20	737.9	31.7	18	40.4	18.9		10.0	ESE	4	ENE	9	NE	3	ESE	4	Ci; ACu	3- 8	ACu; CuNb	8- 3	Few drops rain in pm with distant lightning
21	735.7	29.1	46	36.7	18.7	T	6.0	NNE	1	N	4	W	12	WSW	3	Ci; CiCu; ASt	8- 6	Ci; CiSt	4- 6	Smoky in evening
22	737.1	21.7	69	28.9	16.7		9.0	WSW	1	WSW	3	SSW	6	SSW	5	StCu; Nb	6-10	Ci; Cu	6- 1	
23	736.2	22.8	58	30.1	12.6		12.0	WSW	1	SW	3	SSW	6	SSW	6	ACu; StCu	1- 6	Cu	6- 1	
24	736.3	21.7	60	29.1	13.2		10.3	SSW	2	S	6	SSW	11	S	9	Cu; StCu	7-10	Ci; CiCu; Cu	6- 1	Fire in W; threatening briefly at 20h
25	739.3	22.8	57	30.9	11.5		12.4	S	5	SE	8	SSE	4	S	9	CiSt; CiCu; ACu; Cu	3- 6	CiSt; CiCu; ACu; Cu	6- 1	Fire in W
26	739.6	25.5	37	34.4	12.4		12.2	S	3	ESE	9	NNE	3	SSE	5	Ci	1- 3		0	Fire in W
27	739.0	30.8	22	38.4	18.0		11.9	SE	2	E	6	SE	5	ESE	10	ACu; Cu	1- 6	ACu; Cu	6- 1	Fires in all directions
28	740.4	27.5	36	38.8	19.8		11.6	ESE	12	E	14	E	9	ESE	11	CiSt; CiCu; ASt; ACu	2- 6	CiCu; ACu; ASt	4- 6	Fire in W
29	742.0	29.1	27	38.2	24.3		3.9	E	10	NE	10	NNE	2	SSW	3	CiCu; CiSt; ASt; ACu	7-10	CiCu; CiSt; ASt; ACu	7-10	
30	740.0	32.9	17	37.5	20.9		6.8	E	1	NE	12	NW	1	SSW	4	CiSt; CiCu; ACu; ASt	7-10	CiSt; CiCu; ACu	8- 4	
31	737.1	32.6	14	38.4	17.0		7.3	..	0	NNE	7	NNW	6	SSW	7	CiSt; CiCu; ACu; ASt	7-10	CiSt; CiCu; ACu; ASt	7-10	
SUM						0.06														
MEAN	739.1	25.6	43	33.1	15.4		10.2		3.2		8.1		6.9		5.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 439

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	122	119	158	168	158	168	184	170	142	129	118	119	121	124	122	116	112	107	112	113	121	121	119	127	132	0
2	✓	✓	✓	153	150	116	109	113	115	116	121	127	130	138	150	148	153	139	141	147	151	153	150	142	142	142	136	137	0
3	✓	✓		129	129	132	127	122	165	174	162	168	173	177	177	168	(148)	135	129	132	138	135	142	⌈ 92	99	98	106⌋	140	0
4	✓	✓		⌈109	116	153⌋	226	246	246	263	277	275	265	254	225	200	196	194	190	184	182	177	181	199	211	230	234	210	0
5	✓	✓	✓	265	301	314	285	280	260	243	226	202	184	177	173	168	164	155	153	148	144	153	173	⌈107	150⌋	159	164	198	0
6	✓	✓		184	⌈176	107	110	119	194⌋	208	155	153	153	147	141	147	144	142	136	122	109	92	90	92	92	(109	118)	135	0
7				—	—	—	—	—	—	—	—	—	132	130	133	136	136	133	138	133	133	138	147	153	147	165	153		0
8	✓	✓	✓	167	168	188	216	171	148	158	170	161	162	142	142	155	150	139	136	144	158	⌈115	99	109	129⌋	148	150	151	0
9	✓	✓	✓	148	153	162	182	213	219	210	147	107	87	92	99	98	96	90	96	98	98	99	103	110	109	121	127	128	0
10	✓	✓		⌈119	104	99	80	67	57	61⌋	167	230	228	185	182	176	(168)	135	113	107	107	103	121	113	113	122	132	129	0
11	✓			132	⌈104	90	98	95	54	87⌋	197	207	197	185	182	177	168	164	158	153	⌈133	107	113	118	107	118	113⌋	136	1
12	✓	✓	✓	⌈106	103	101	107	138⌋	184	260	292	286	260	228	199	182	170	161	151	133	127	118	113	118	122	107	107	161	0
13	✓	✓		106	106	121	173	220	246	252	248	231	228	214	199	182	171	168	167	155	153	147	147	⌈142	107	99	103⌋	170	0
14	✓	✓		⌈110	129	156	193⌋	225	283	352	358	233	214	199	179	151	132	133	124	118	⌈ 76	67	101	118	115	127	124⌋	167	0
15	✓	✓		⌈122	139⌋	193	202	203	203	223	231	275	199	179	168	194	187	⌈170	103	90	76	60	63	73	84	103	115⌋	152	0
16	✓			127	136	151	155	165	170	164	148	138	112	109	122	122	118	121	≷112≶	113	112	116	112	133	138	139	138	132	1
17	✓	✓	✓	132	129	127	127	122	127	122	122	139	150	⌈136	112	122⌋	(135)	136	133	153	153	153	150	155	165	167	171	139	0
18	✓			164	⌈150	129	124	76	106	168⌋	214	182	138	121	122	138	122	113	98	⌈ 89	86	101	98	103	118	132	121⌋	125	0
19	✓	✓		⌈112	107	107	119	145⌋	168	274	314	297	282	254	230	214	199	193	184	174	162	155	153	150	156	168	188	188	0
20	✓			191	231	275	308	343	363	356	329	271	240	219	194	167	155	155	155	156	127	139	148	164	≷132≶	190	213	218	1
21	✓			223	⌈233	217	191	199⌋	153	167	210	182	159	148	133	138	138	136	141	150	⌈138	44	34	41	87	107	72⌋	143	0
22	✓	✓		⌈ 52	47	92	121	122	107	70	70	76	73	73	122	129	125	148⌋	158	150	144	142	132	132	129	124	129	111	0
23	✓	✓	✓	133	129	156	164	168	174	167	139	144	144	151	⌈122	87	73	118⌋	138	122	142	148	148	153	153	156	170	142	0
24	✓	✓	✓	170	208	177	144	136	153	153	136	138	153	156	164	162	(153)	148	148	153	156	156	162	147	138	129	127	153	0
25				127	135	133	138	138	147	151	151	184	197	197	182	177	174	155	138	156	⌈142	103	99	96	113	119	107⌋		0
26	✓	✓		⌈109	122	109	124	162⌋	230	254	245	265	260	249	242	214	203	197	188	164	156	173	181	⌈138	107	121	142⌋	181	0
27	✓	✓	✓	⌈153	179⌋	214	260	306	343	334	334	352	314	275	⌈199⌋	202	194	185	174	162	153	155	147	168	173	181	193	223	0
28	✓	✓		194	205	226	200	197	177	170	193	221	243	219	233	223	220	184	173	⌈136	122⌋	129	122	148	153	182	185	186	1
29	✓	✓		173	164	151	171	177	200	225	216	199	197	182	179	176	168	170	171	171	153	155	⌈141	75	76	118⌋	228	168	0
30	✓	✓		242	213	208	233	289	274	259	233	185	177	148	153	155	151	≷147	116≶	132	138	139	⌈ 49	60	58	76	64⌋	162	0
31	✓			⌈ 76	112	153⌋	174	199	216	243	269	228	219	≷208	167≶	182	≷110≶	138	⌈116	103	119	118⌋	121	122	121	118	110	156	1
MEANS * 29 DAYS				146	150	158	169	178	190	204	210	200	189	175	167	162	153	150	142	137	132	126	124	122	124	135	142	158	
MEANS † 23 DAYS				144	148	155	167	178	193	206	205	200	192	178	170	164	158	153	145	139	135	132	130	124	126	135	145	159	
MEANS ‡ 10 DAYS				155	164	171	176	180	189	195	186	180	171	161	148	144	141	139	139	137	139	136	136	133	140	143	147	156	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 440

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	101	103	153	162	156	164	176	161	139	120	107	112	112	115	111	105	105	97	105	103	100	97	92	89	120	0
2	✓	✓	✓	99	96	78	75	88	96	101	108	115	120	138	144	147	150	142	142	147	144	138	126	118	124	127	123	120	0
3	✓	✓		111	111	111	97	88	134	167	164	169	176	184	188	178	165	(128)	120	134	135	128	124	[67	73	70	67]	128	0
4	✓	✓		[71	82	108]	206	243	240	255	274	277	278	273	243	225	207	201	193	187	176	164	147	156	173	194	214	199	0
5	✓	✓	✓	250	286	307	278	282	262	239	230	203	188	182	179	171	165	146	142	138	134	141	156	[93	134]	143	150	192	0
6	✓	✓		162	[162	96	92	112	188]	188	157	158	161	152	147	152	152	143	133	115	101	[78	77	74	77	73	73]	126	0
7				89	92	86	85	92	92	99	109	111	124	126	133	138	138	137	135	130	135	130	126	126	119	124	115		0
8	✓	✓	✓	150	152	180	197	150	131	147	175	157	157	138	138	144	141	130	126	139	151	[101	92	90	109]	124	128	139	0
9	✓	✓	✓	133	127	135	166	201	222	214	138	97	80	84	88	90	86	82	92	96	94	86	93	96	96	108	112	117	0
10	✓	✓		[97	82	67	53	42	31	38]	164	249	249	197	187	179	165	(142	119)	96	97	92	111	86	93	105	120	119	0
11	✓			105	[84	70	71	57	32	70]	204	221	206	190	184	183	178	160	147	139	[124	104	105	103	103	96	88]	126	1
12	✓	✓	✓	[85	84	74	84	116]	176	262	308	315	298	263	227	197	178	157	147	126	119	105	93	100	109	93	84	158	0
13	✓	✓		82	88	103	151	204	242	258	271	250	254	239	219	201	183	180	165	155	139	133	120	[111	69	56	70]	164	0
14	✓	✓		[78	93	119	160]	201	250	333	354	260	233	206	180	146	123	123	114	105	[63	56	81	96	92	108	99]	153	0
15	✓	✓		[99	122]	192	204	206	213	228	249	273	202	188	173	197	188	[164	88	73	57	48	42	41	55	73	86]	144	0
16	✓			99	109	111	119	123	142	148	142	138	101	111	120	126	119	119	≷127≶	108	100	100	93	89	97	97	97	114	1
17	✓	✓	✓	89	84	88	82	82	89	101	108	128	143	115	97	103	116	(119)	119	146	139	133	119	103	116	124	116	111	0
18	✓			111	[109	84	62	39	59	126]	201	173	124	104	99	105	93	89	77	[70	67	80	75	80	90	100	92]	96	0
19	✓	✓		[80	75	75	81	109]	141	277	327	318	306	276	245	213	204	193	187	165	156	150	130	128	130	137	171	178	0
20	✓			164	230	272	315	347	355	357	323	284	260	238	204	156	142	139	134	138	119	133	134	147	≷160≶	189	214	215	1
21	✓			225	[226	206	174	184]	142	146	178	180	164	148	128	138	137	130	138	148	[124	38	28	24	60	78	52]	133	0
22	✓	✓		[41	31	63	89	88	84	52	53	57	60	57	99	120	105	128]	147	138	124	116	111	114	[97	92	84]	90	0
23	✓	✓	✓	[64	71	99]	119	137	139	138	123	135	137	139	[112	69	57	99]	116	111	124	130	116	114	116	105	97	111	0
24	✓	✓	✓	116	160	137	93	93	99	120	114	126	138	139	141	152	148	(138)	135	146	147	138	137	123	112	(108	108)	128	0
25				—	—	—	—	—	—	—	—	194	210	209	188	175	161	141	123	138	[126	92	90	80	93	105	85]		0
26	✓	✓		[84	97	96	97	122]	237	266	266	273	273	273	257	230	213	204	190	164	153	164	164	[109	84	86	103]	175	0
27	✓	✓	✓	[119	147]	183	251	295	327	338	342	366	329	294	[203]	206	203	192	175	158	156	169	153	174	179	190	202	223	0
28	✓	✓		202	214	228	204	202	182	175	202	231	255	222	242	239	226	208	190	[143	130]	139	126	146	148	183	167	192	1
29	✓	✓		161	162	142	164	167	193	218	219	202	203	192	188	184	169	166	167	150	127	146	[119	52	57	93]	207	160	0
30	✓	✓		231	202	188	208	273	266	248	234	189	173	150	150	152	135	≷120	131≶	124	114	120	[42	42	41	56	49]	152	0
31	✓			[57	93	128]	157	183	213	237	250	227	228	≷225	215≶	188	(162)	≷151≶	[100	89	103	105]	105	109	109	99	107	152	1
MEANS * 29 DAYS				120	127	134	145	158	174	194	208	204	194	180	169	162	153	145	137	129	121	115	108	99	103	110	116	146	
MEANS † 23 DAYS				118	123	131	144	159	179	197	206	204	197	183	172	166	156	149	141	133	125	121	112	101	104	110	118	148	
MEANS ‡ 10 DAYS				121	131	143	151	160	170	184	181	178	171	160	144	139	136	132	130	131	130	125	119	111	119	121	121	142	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 441

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1933

DAY	✱	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		⌈158	144	126	112	93	103⌋	110	99	87	88	79	78	79	84	87	88	92	100	95	113	115	108	⌈121	106⌋	103	0
2			✓	⌈110⌋	84	92	92	69	68	62	78	91	82	87	79	73	73	79	73	71	⌈Z	Z⌋	≷27	Z	Z≶	70	66		1
3				82	80	92	88	57	⌈N 7	Z	64	Z	Z	Z	Z	Z	Z⌋	≷Z	Z	Z	Z	101	Z≶	59	59	65	≷Z≶		2
4				≷Z	49	Z	40≶	41	37	41	55	83	82	83	64	⌈N 55	−21	Z	Z	Z⌋	Z	Z	Z	≷⌈174	239	294	253⌋		2
5				⌈276	108	93⌋	≷Z	Z	N 52≶	83	48	≷Z	Z	Z≶	64	63	70	70	73	60	61	⌈101	103	142	188	133⌋	83		2
6	✓	✓	✓	78	72	73	73	73	69	56	55	62	56	65	69	75	58	55	59	58	63	69	64	65	69	60	61	65	0
7	✓	✓		54	61	67	68	66	56	73	61	72	⌈111	119⌋	88	74	71	65	65	72	83	71	47	⌈75	144	197	193⌋	86	0
8	✓	✓		⌈126	101	129	161	165	193	141	75	95⌋	48	84	97	75	83	73	78	92	87	⌈108	162	174	187	174	191⌋	121	0
9				⌈171	211	211	225	185	183	128⌋	55	42	41	64	71	67	64	78	77	90	84	82	70	⌈228	303	Z+	Z+⌋		0
10	✓	✓		⌈208	196	135	206	273	221	202	125⌋	70	66	64	60	58	53	53	62	64	⌈142	101	160	226	266	230	206⌋	144	0
11	✓	✓		⌈183	153	155	185	165	166	146	118	108	123	127	119	105	99	97	88	85	113	117	145	171	209	239	233⌋	144	0
12				⌈224	173	215	270	Z+	Z+	Z+	249	180	151	150	139	125	133	149	169	167	198	236	226	227	217	232	231⌋		0
13	✓	✓		⌈187	226	300	331	187⌋	93	81	74	70	56	66	57	71	97	114	117	121	121	⌈159	189	225	236	236	236⌋	152	0
14				⌈219	240	316	Z+	Z+	338	228	120⌋	97	88	92	86	93	103	104	100	102	110	127	⌈188	299	347	337	279⌋		0
15	✓	✓		⌈240	218	166⌋	111	111	130	137	131	111	98	84	81	83	83	89	96	97	100	⌈130	211	247	277	332	328⌋	154	0
16	✓	✓		⌈310	296	290	174⌋	89	68	64	60	52	50	55	64	⌈78	84	91	77	88	74	70	83	125	139	143⌋	105	114	0
17	✓	✓	✓	84	72	59	78	98	97	⌈148	176	184	157	180	175	175	169	146	111	110	125	135	148	163	161	187	190⌋	139	0
18				—	—	—	—	—	—	—	124	103	⌈180	194	186	163	142	130	186	179	157	154	161	154	199	292	325⌋		0
19				⌈340	Z+	245	161	165	143	123	123⌋	102	105	109	85	82	76	83	97	111	88	58	66	⌈120	261	213	174⌋		0
20				⌈Z+	230	216≶	Z+	N 79	N 93	N 84	Z+	Z+≶	122	111	103	⌈151	N128	139	N 37	N122⌋	124	138	122	110	119	142	139		1
21				—	—	—	—	—	—	—	—	⌈140	134	134	134	141	153⌋	125	119	136	142	140	⌈189	268	250	232	235⌋		0
22	✓	✓		⌈195	175	157⌋	129	135	118	106	111	142	118	116	134	135	130	135	143	135	125	⌈186	255	317	309	329	376⌋	175	0
23				⌈385	319	161⌋	134	116	102	83	81	75	78	78	77	87	106	107	105	97	71	67	55	69	92	⌈170	Z+⌋		0
24				⌈Z+	Z+	309	317	Z+	305	288	237	200	291⌋	≷N 42	Z+	N167≶	⌈190	178	198	178	175	183	165	176	175⌋	142	138		0
25	✓	✓	✓	147	139	129	84	65	71	80	100	119	110	97	106	92	92	106	111	129	132	107	118	126	130	120	115	109	0
26	✓	✓	✓	100	101	99	75	55	47	58	71	84	89	92	98	111	111	105	111	110	108	118	116	117	129	136	120	98	0
27	✓	✓		92	74	55	41	28	26	37	83	88	89	83	86	93	93	103	101	106	⌈129	144	154	153	202	165	117⌋	98	0
28	✓	✓		⌈121	153	129	103	83	71	119	150⌋	133	106	84	80	92	100	106	111	115	⌈154	190	201	180	203	226	264⌋	136	0
29																													
30																													
31																													
MEANS ✱ 15 DAYS				152	145	138	129	112	102	104	99	98	91	93	93	93	94	95	95	98	110	120	144	165	185	193	189	122	
MEANS † 15 DAYS				152	145	138	129	112	102	104	99	98	91	93	93	93	94	95	95	98	110	120	144	165	185	193	189	122	
MEANS ‡ 5 DAYS				104	94	90	80	70	65	64	73	82	77	79	83	87	86	89	89	95	95	92	99	110	115	116	101	89	

DESIGNATIONS AND REMARKS:

✱ = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 442

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30°19′S, LONGITUDE 115°52′E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h		08h-09h		14h-15h		20h-21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	737.9	21.8	57	30.0	15.6		11.4	SSW	3	SSW	8	SSW	6	SSW	6	CiSt; ACu; ASt	4- 6	CiSt; ACu; ASt	6- 1	
2	737.0	21.8	60	29.9	10.5		9.9	WSW	3	SSW	3	ENE	4	E	13	ACu; FrCu; StCu;CuNb	7- 8	ACu; FrCu; StCu;CuNb	7- 8	Dust storm at 17h8; thunder and lightning at 21h
3	736.2	33.6	18	39.6	21.0		9.5	ENE	13	E	24	NE	27	ESE	4	CiCu; ACu; ASt	6- 8	CiCu; ACu; ASt; CuNb	7- 8	Dusty and smoky throughout;thunder and lightning pm and eve.
4	736.7	33.0	15	40.7	23.0		5.9	ENE	1	NE	7	WSW	7	..	0	Ci; ASt; ACu	7-10	Ci; ASt; ACu; CuNb	7-10	Very smoky in pm and eve.; thunder and lightning at 18h
5	738.0	30.9	35	40.8	21.2	0.12	4.1	E	1	E	1	SSW	2	SSW	3	StCu; CuNb; ASt	7- 8	CiSt; ACu; ASt	4- 6	Rain in early hours; fire in W
6	738.2	33.1	26	43.0	22.2		11.0	ESE	6	ENE	6	SE	2	SE	4		0	ACu	1- 3	Smoky in pm
7	738.6	37.2	11	45.0	25.0		10.7	E	4	NE	5	SE	5	SSE	2		0	ACu	1- 6	Smoky
8	740.0	37.2	9	43.9	22.2		10.2	SSE	2	N	8	NE	6	S	2		0	ACu	1- 3	Smoky throughout, especially in evening
9	739.0	34.9	11	42.4	21.5		10.3	S	1	NE	2	E	5	SSW	5		0		0	Smoky throughout
10	737.0	33.4	17	44.8	19.1		9.9	..	0	NNE	2	WNW	1	S	2		0		0	Smoky throughout
11	736.9	30.8	33	42.8	18.8		9.4	S	1	SSE	4	S	9	S	7		0		0	Smoky; clouds gathering in evening
12	737.9	27.2	54	38.8	18.6		11.2	SSW	2	SSE	5	S	7	SSW	5		0		0	Smoky
13	737.7	25.0	46	37.6	17.3		12.0	S	4	SE	8	SSE	5	SSW	6		0		0	
14	737.0	25.0	42	35.4	16.8		12.2	SSW	5	SE	7	ESE	8	S	7		0		0	
15	737.3	25.8	42	35.6	18.3		12.0	SSE	4	ESE	9	ESE	7	SSE	9		0		0	Fires in NW and SW
16	735.6	30.8	22	41.7	18.2		11.8	SSE	5	ENE	6	NNE	3	SE	3	CiSt	1- 3	StCu; CuNb	1- 3	
17	735.9	28.3	52	35.4	20.7		11.6	..	0	WNW	10	SSW	9	SSW	6		0		0	Smoky
18	739.1	23.3	59	34.9	16.3		11.7	S	2	SSE	6	S	4	SSW	5		0	Cu; CuNb	1- 3	Smoky
19	736.8	28.8	27	41.2	13.8		8.0	S	1	E	4	NE	2	SSW	4	Ci; CiCu; ACu; ASt	6-10	CiCu; ACu; ASt; CuNb	6-10	Smoky in pm; also briefly threatening
20	733.5	28.8	45	37.8	22.5		4.4	SSW	1	E	2	SSW	16	S	6	Ci; CiCu; ACu; ASt	10	Ci; CiCu; ACu; ASt	9- 4	
21	739.1	21.2	62	30.3	13.8		10.9	S	4	SSE	9	SSW	7	S	6	Ci; CiCu; StCu	1- 3	Ci; CiCu	1- 3	
22	740.8	22.2	53	31.1	13.5		11.7	S	6	SE	13	SE	9	S	7		0		0	
23	739.1	21.7	44	34.5	15.7		11.5	ESE	7	ESE	12	E	4	SSE	2	Ci; CiCu; CiSt	1- 3	CiCu; CiSt	4- 8	Fires in SW
24	736.1	21.6	72	27.1	20.1		0.9	SSW	5	SSW	2	SW	4	SSW	6	ACu; ASt; CuNb	7-10	ACu; ASt; CuNb	8- 3	Few drops rain in am
25	736.4	20.6	59	29.6	10.4	0.03	11.9	SSW	2	S	2	SSW	7	SSW	5	ACu	1- 3	Cu	1- 3	
26	737.5	22.4	52	27.3	10.6		9.5	..	0	WSW	4	WSW	10	SW	3	Ci; CiCu; Cu; StCu	8- 3	Ci; CiCu	1- 3	
27	739.8	22.6	55	29.7	12.7		11.0	..	0	ESE	6	S	1	S	8	Cu; StCu	8- 6	Cu; ACu	6- 1	
28	739.2	20.2	51	30.6	12.3		10.9	S	4	SSE	8	SSE	6	S	8	Ci	1- 3	Ci	4- 6	Thin haze in part of sky at 9h
29																				
30																				
31																				
SUM						0.15														
MEAN	737.7	27.3	40	36.5	17.6		9.8	3.1		6.5		6.5		5.1						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 443

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		113	110	113	121	118	115	121	115	119	122	129	132	130	133	130	124	122	130	143	137	140	135	140	140	126	0
2	✓			154	187	185	184	187	201	203	192	155	155	157	149	130	140	152	157	144	⌈111	108⌋	152	174	198	212	217	167	1
3	✓			218	223	203	217	201	⌈181	171⌋	182	⌈154	93	124	124	105	111⌋	52	49	108	93	154	126	207	226	217	192	155	2
4	✓			157	272	190	250	301	319	312	220	146	146	154	166	182	173	140	30	133	46⌉	⌈28	28	31	31	31	63⌋	148	2
5	✓			⌈53	122	124⌋	115	143	148	171	181	31	61	146	207	198	190	176	176	171	159	⌈93	89	64	52	78⌋	157	129	2
6	✓	✓	✓	140	140	141	155	166	181	187	190	176	166	(78)	96	93	107	107	99	96	104	116	129	138	127	122	151	134	0
7	✓	✓		188	198	187	165	148	173	182	203	143	⌈77	77⌋	107	110	(110)	108	122	122	115	118	110	⌈89	36	31	38⌋	123	0
8	✓	✓		⌈55	60	61	55	63	58	89	124	93	77	33	49	75	47	72	74	50	66	58	16	22	25	31	31⌋	58	0
9	✓			⌈33	46	47	47	47	49	68⌋	137	171	203	124	104	108	122	135	⌈82	63	61	61	77	19	25	41	42⌋	80	0
10	✓	✓		⌈46	46	49	39	42	53	63	108⌋	166	165	140	148	154	152	149	140	⌈41	25	46	30	27	27	31	36⌋	80	0
11	✓	✓		⌈30	28	30	30	31	31	35	39	46	49	50	58	68	69	47	44	31	31	33	36	38	38	36	44⌋	40	0
12	✓			⌈44	44	42	41	25	25	28	41	68	75	74	74	78	68	60	46	57	47	49	52	66	63	63	63⌋	54	0
13	✓	✓		⌈57	46	38	46	77⌋	141	174	174	171	171	155	144	140	115	97	94	94	99	⌈66	57	60	61	63	50⌋	100	0
14	✓			⌈52	58	46	31	31	42	63	124⌋	144	143	151	143	137	(135)	141	135	151	135	137	⌈105	53	44	47	53⌋	96	0
15	✓	✓		⌈63	78	115⌋	168	159	144	146	141	154	174	187	185	182	170	171	168	160	140	⌈124	55	52	50	47	47⌋	128	0
16	✓	✓		⌈47	50	57	96⌋	198	231	218	245	276	265	232	203	⌈152	94	74	60	93	108	122	111	77	77	96⌋	144	139	0
17	✓	✓		155	166	185	184	166	148	⌈107	69	47	50	33	30	31	38	49	75	80	80	77	78	94	108	99	83⌋	93	0
18				⌈80	72	94	96⌋	126	127	108	108	⌈93	60	53	57	63	77	96	30	47	91	82	78	82	82	57	58⌋		0
19	✓			⌈49	50	75	78	80	80	93	104⌋	140	151	110	141	165	176	152	124	124	127	154	132	⌈75	35	60	61⌋	106	0
20				⌈61	63	66⌋	47	75	82	97	108	108	94	108	94	⌈47	46	57	63	88⌋	108	119	124	124	122	122	133		1
21	✓			132	135	129	126	132	⌈113	93	75	75	74	77	83	80⌋	(69	86)	110	116	110	124	⌈63	58	75	78	78⌋	95	0
22	✓	✓		⌈96	102	108⌋	122	108	111	110	100	97	93	82	82	97	94	85	85	91	82	⌈52	42	47	47	47	49⌋	84	0
23	✓			⌈50	68	143⌋	159	177	185	192	220	234	234	242	239	⌈217	157⌋	187	177	182	160	166	160	152	159	⌈110	31⌋	167	0
24	✓			⌈31	47	63	58	47	49	47	46	30	31	41	58	72	72	69	63	63	63	75	78	96	104⌋	126	141	65	0
25	✓	✓	✓	143	157	174	198	217	193	203	203	160	173	171	176	166	159	154	148	154	157	166	168	159	160	163	173	171	0
26	✓	✓	✓	190	192	203	245	279	314	309	250	182	166	166	160	155	155	155	155	157	160	159	168	171	173	171	185	192	0
27	✓	✓		203	214	239	265	279	279	279	199	193	171	171	176	173	170	171	181	173	⌈121	108	116	129	99	119	116⌋	181	0
28	✓	✓		⌈108	88	105	110	108	105	110	108⌋	119	144	171	170	155	(155)	148	140	119	⌈89	49	47	63	63	63	61⌋	108	0
29																													
30																													
31																													
MEANS * 26 DAYS				100	113	117	127	136	141	145	146	134	132	126	131	129	122	118	110	111	101	99	91	88	86	89	94	116	
MEANS † 15 DAYS				109	112	120	133	144	152	156	151	143	138	125	128	125	118	114	114	106	100	96	87	87	82	84	90	117	
MEANS ‡ 5 DAYS				156	168	178	193	209	224	224	216	190	185	161	153	139	130	124	117	124	132	141	143	137	134	138	159	161	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 444

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	[87	87	91	89	89	90]	101	105	114	114	128	129	132	128	127	120	114	128	132	119	114	110	[94	97]	110	0
2	✓			[87]	146	154	153	163	168	186	172	146	148	148	143	125	140	153	153	138	[87	128]	157	≷142≷	171	180	183	149	1
3	✓			186	202	185	192	188	[180	176]	180	[180	167	164	164	154	154]	≷75	50	143	143	142	183≷	192	210	187	≷218≷	167	2
4	✓			≷196	277	263≷	248	297	311	302	213	142	140	140	168	201	224	≷178	104	188	123≷	[18	40	18	30	24	45]	162	2
5	✓			[34	102	108]	≷143	140≷	143	143	171	≷205	205≷	181	183	193	188	182	180	178	154	[90	87	60	45	64]	140	138	2
6	✓	✓	✓	140	142	144	152	162	167	180	186	171	161	(90)	87	80	99	102	98	101	101	120	114	124	120	114	132	129	0
7	✓	✓		171	183	171	157	139	167	161	190	132	[76	69]	89	101	116	(99)	121	113	102	110	112	[83	36	30	30]	115	0
8	✓	✓		[45	54	51	45	54	40	66	113	87	74	24	48	72	46	69	74	48	60	54	20	18	18	30	30]	52	0
9	✓			[30	30	42	40	39	36	48]	119	171	221	124	97	105	127	131	[78	56	54	54	72	18	18	30	24]	74	0
10	✓	✓		[34	30	40	30	30	45	40	87]	149	154	138	151	161	163	159	147	[56	20	40	30	16	18	30	30]	75	0
11	✓	✓		[30	30	28	27	28	30	27	33	45	40	45	48	57	57	40	34	30	30	34	30	27	36	32	30]	35	0
12	✓			[30	34	30	27	16	16	20	32	52	58	56	60	70	60	45	32	45	34	42	45	48	46	46	45]	41	0
13	✓	✓		[45	30	30	27	58]	120	146	169	172	181	159	151	140	105	86	78	78	85	[60	46	36	42	45	36]	89	0
14	✓			[42	40	28	18	18	26	36	104]	143	144	144	146	131	(128)	131	133	143	129	114	[75	36	30	30	32]	83	0
15	✓	✓		[44	48	78]	143	154	131	121	132	146	168	178	182	178	171	166	168	156	128	[93	46	39	36	30	30]	115	0
16	✓	✓	✓	[30	32	32	72]	185	226	217	241	289	285	240	211	[143	78	57	46	76	102	114	116	48	58	76]	121	129	0
17	✓	✓		138	154	168	166	156	132	[91	60	45	45	30	20	27	28	38	69	76	75	69	63	75	97	75	60]	82	0
18				[58	45]	—	—	—	—	—	—	91	[46	45	46	45	63	83	20	39	75	70	66	72	60	30	36]		0
19	✓			[32	36	33	45	60	56	75	90]	138	129	105	138	148	167	132	112	101	110	119	119	[66	30	40	48]	89	0
20				[56	48	44]	≷60	69	75	76	60	93≷	83	91	—	—	—	—	—	—	—	—	—	—	87	91	106		1
21	✓			102	101	97	102	104	[87	79	72	66	68	74	70	70	66]	86	(102)	101	91	101	[46	32	45	54	51]	78	0
22	✓	✓		[64	75	85]	97	91	91	94	95	91	89	76	74	86	76	69	68	75	74	[45	34	30	30	30	26]	69	0
23	✓			[21	27	114]	143	164	177	202	221	241	240	246	250	[221	143]	178	167	167	154	146	143	127	135	[83	24]	156	0
24	✓			[20	30	45	45	30	32	30	30	30	30	32	46	58	46	44	45	45	54	60	70	75	76]	101	95	49	0
25	✓	✓	✓	93	101	128	154	156	151	169	166	138	146	159	162	167	158	151	146	146	142	147	129	117	109	91	101	139	0
26	✓	✓	✓	127	132	135	223	252	286	275	215	167	161	154	159	163	158	166	153	144	143	129	124	121	128	101	101	163	0
27	✓	✓		120	146	192	227	228	236	228	178	205	166	167	172	172	159	158	164	151	[114	99	101	102	74	87	87]	156	0
28	✓	✓		[78	60	74	87	87	93	97	93]	119	143	169	163	143	148	(140)	117	102	[76	44	34	51	46	46	45]	94	0
29																													
30																													
31																													
MEANS * 26 DAYS				78	90	98	110	119	124	127	133	138	137	125	127	127	120	114	106	107	97	89	83	70	69	67	72	106	
MEANS † 15 DAYS				83	87	96	113	125	134	134	137	138	134	122	123	121	113	108	107	98	92	86	75	67	64	61	64	103	
MEANS ‡ 5 DAYS				117	135	146	170	184	200	205	196	182	180	158	150	137	124	121	113	116	123	128	120	105	105	95	110	142	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 445

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈256	260	242	226	148⌋	110	105	101	85	69	65	63	64	74	77	76	93	91	95	81	⌈111	221	247	247⌋	134	0
2				⌈224	230	230	236	218	214	236	Z+	Z+	Z+	311	257	233	216	183	161	160	171	149	160	165	184	189	191⌋		0
3	✓	✓		⌈151	146	119	115	114	161	154⌋	102	106	101	106	101	112	128	109	⌈114	133	159	165	179	120	119	138	141⌋	129	0
4	✓	✓		⌈119	153	176	144⌋	87	69	57	52	38	46	46	51	52	55	65	80	85	82	82	91	97	106	105	96	85	0
5	✓	✓	✓	92	87	87	86	87	75	69	67	65	64	63	61	71	70	76	49	46	59	61	72	63	66	69	64	70	0
6				74	64	50	73	69	48	87	88	79	78	73	50	74	100	Z+	Z+	Z+	Z+	32	N 10	98	158	164	161		2
7	✓	✓	✓	141	106	80	105	117	84	53	59	96	53	70	82	81	87	101	107	92	98	103	⌈133	137	127⌋	111	105	97	0
8	✓	✓		93	98	88	91	87	78	73	69	69	69	69	70	76	76	82	87	⌈ 59	95	112	114	131	130	182	169⌋	94	0
9	✓	✓	✓	⌈148	136	110⌋	90	86	68	64	61	58	57	55	59	61	65	60	⌈ 74	74	86	78	90	96	109	118	128⌋	85	0
10	✓	✓		⌈117	96	99	116	118	118	123	141	136	84⌋	69	77	77	78	85	85	97	⌈127	140	163	216	231	234	261⌋	129	0
11	✓	✓		⌈248	255	273	277	260	160⌋	103	85	72	77	88	98	96	96	102	⌈141	154	177	173	154	136	122	165	175⌋	154	0
12	✓	✓		⌈223	239	200	125⌋	88	77	72	65	62	64	59	64	64	63	66	63	70	69	64	70	⌈120	278	287	291⌋	118	0
13				⌈252	188	146	116	87⌋	64	53	43	41	41	50	50	74	57	69	N 48	Z	Z	Z	49	75	85	⌈206	156⌋		2
14	✓	✓	✓	⌈114	111	90	127	96⌋	77	45	43	46	46	' 51	64	50	59	46	52	69	74	79	69	80	63	60	72	70	0
15	✓	✓	✓	79	63	65	63	60	60	63	84	82	90	105	106	99	99	103	112	107	100	108	105	96	96	103	⌈119⌋	90	0
16	✓	✓		⌈165	214	251	270	199	202	212	221	150	97	143	115	109	115	115	105	108	101	179	205	215	228	207	205⌋	172	0
17				⌈255	278	329	325	319	240	113⌋	74	69	69	64	73	75	78	77	86	101	92	86	113	⌈262	Z+	Z+	Z+ ⌋		0
18				⌈ Z+	357	326	269	197	136⌋	84	60	53	49	59	69	73	79	136	Z	−7	82	⌈150	206	246	231	219	266⌋		1
19	✓	✓		⌈223	174	120⌋	114	126	106	109	96	84	83	91	90	83	82	83	72	69	83	95	96	109	121	104	89	104	0
20				82	78	74	76	78	64	55	64	74	60	52	64	69	⌈ 76	91	93	171	200	164	292	295	Z+	Z+	Z+ ⌋		0
21				⌈ Z+	Z+	239	238	136	146⌋	114	106	109	97	85	83	86	90	⌈ 97⌋	89	109	104	108	110	97	⌈126	146⌋	127		0
22	✓	✓	✓	128	119	116	111	111	122	107	108	112	104	102	110	119	119	130	134	138	118	113	105	105	105	104	110	115	0
23	✓	✓		⌈119	151	151	162	151	143	119⌋	79	64	59	63	⌈ 82	101	89⌋	82	80	81	70	61	74	⌈214	206	207	243⌋	119	0
24	✓	✓		⌈310	298	287	260	318	201	155	118⌋	67	50	54	54	67	68	67	65	74	64	⌈196	247	312	306	260	187⌋	170	0
25	✓	✓		⌈183	207	233	234	213	142	159	173	165	105⌋	81	82	83	72	78	87	⌈ 93	117	192	229	165	211	297	291⌋	162	0
26	✓	✓		⌈207	142	189	200	200	169⌋	−93	−93	N 22	143	110	98	⌈171	165	163	162	156	161	178	152⌋	124	114	118	93	127	2
27	✓	✓	✓	101	123	124	146	149	128	126	123	101	86	82	73	80	105	96	98	107	109	93	⌈114	128⌋	117	108	109	109	0
28	✓	✓	✓	117	106	112	108	101	79	64	73	69	69	59	62	64	64	76	82	88	87	84	105	96	95	117	109	87	0
29	✓			101	124	110	115	119	107	79	67	74	73	81	79	81	79	94	90	96	100	⌈ 90	114	99	221	233	233⌋	111	0
30	✓			⌈220	154⌋	114	109	85	74	65	60	57	56	55	58	59	68	73	72	76	⌈ 86	97	80⌋	80	73	64	64	83	0
31				79	79	68	62	55	49	41	37	46	53	64	68	69	78	77	74	76	79	58	64	⌈ 98	100	Z	Z ⌋		0
MEANS * 23 DAYS				159	155	149	148	136	113	91	85	82	76	77	78	83	86	88	91	94	101	115	124	133	151	158	157	114	
MEANS † 21 DAYS				159	156	153	151	139	116	92	87	83	77	78	79	85	87	89	92	95	101	117	126	137	151	159	157	116	
MEANS ‡ 8 DAYS				115	106	98	104	101	87	74	77	79	71	73	77	78	84	86	88	90	91	90	99	100	97	99	102	90	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 446

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	738.0	21.6	49	34.9	13.6		11.4	S	3	SE	12	E	4	S	4	Ci	1- 3	Ci	1- 3	
2	734.7	23.6	66	30.9	16.7		11.1	SSW	2	SW	5	SW	9	SSW	5	Ci; CiSt; StCu	6- 3	Ci; CiSt	1- 3	Smoky in am
3	737.6	23.3	62	30.1	13.1		10.3	SSW	1	SSE	8	SSE	4	SSE	9	CiSt; ACu; Cu	6- 3	CiSt; Cu	3- 1	Dew early
4	738.4	21.7	49	32.7	15.5		11.0	S	3	E	13	E	11	ENE	5	CiSt; CiCu	1- 3	ACu; ASt	1- 3	
5	737.2	26.7	46	30.0	20.7		4.0	NE	3	NE	13	NNE	7	ENE	1	CiSt; CiCu; ACu; ASt	3- 8	CiCu; CiSt; ACu; ASt	7-10	
6	735.9	28.9	56	32.6	21.0	T	5.2	SE	1	SSE	1	SSE	10	ESE	8	CiCu; ACu; StCu; CuNb	7-10	StCu; Cu; CuNb; Nb	7-10	Light thundershowers in am and pm
7	739.6	23.1	76	31.7	20.5	0.08	4.8	ESE	6	E	13	E	6	SE	10	ACu; ASt; StCu	10	ASt; Cu	10- 6	
8	738.9	26.9	56	34.8	20.7		9.6	ESE	4	ESE	9	ESE	3	SE	7	Ci	1- 3	Ci; Cu; CuNb	4- 6	Lightning in NE in pm
9	736.5	27.2	54	36.8	20.5		9.9	SSE	1	ESE	5	SSW	3	S	7	Ci; CiCu; ACu	1- 3	CiCu; ACu; StCu	1- 3	
10	737.2	24.9	60	32.3	18.5		10.1	S	3	SSE	9	SSE	7	S	8	ACu; ASt	1- 6	Ci; CiCu; ACu; ASt	4- 6	
11	739.8	20.8	59	27.8	12.8		11.4	S	3	SE	7	SSE	10	S	7	Ci; CiCu	1- 6	CiCu; ACu	4- 6	
12	740.9	20.2	53	31.2	13.0		11.5	SSE	3	ESE	14	ESE	7	SSE	4		0		0	Thin haze over part of sky
13	739.1	27.3	33	37.2	14.7		8.3	S	3	ESE	4	..	0	..	0	CiCu; ASt; Cu	3- 6	ACu; StCu; CuNb	7-10	Few drops rain in evening
14	740.0	25.6	66	31.8	20.7	T	1.1	..	0	NNE	6	NNE	9	..	0	ACu; ASt; Cu	10- 3	ACu	3-10	Lightning in N in pm
15	740.4	24.8	74	33.0	19.1		11.1	..	0	SSW	2	SSW	3	S	6	ACu; ASt; Cu	3- 6	ACu	1- 3	
16	742.2	19.6	66	29.1	14.5		10.7	SSE	9	S	13	SE	6	S	7	Ci; CiCu; ACu; Cu	3- 4	Ci; CiCu	1- 3	
17	742.4	21.1	53	31.1	11.8		10.5	S	3	ESE	13	..	5	..	4	ASt	1- 3	ACu; Cu	4-10	
18	740.2	25.7	37	34.8	16.0		2.3	S	2	SE	3	S	4	SSE	4	ACu; ASt; Cu; StCu	9-10	ACu; StCu; CuNb	10	Light rain in pm
19	740.8	32.4	24	39.2	23.3	0.01	8.5	E	4	E	7	ENE	7	E	13	Ci; CiCu; StCu	7-10	Ci; CiCu; StCu	4- 8	Fires in SW
20	738.3	31.2	28	41.9	19.7		9.9	E	3	NNE	10	NNW	8	SSW	1	CiCu; Cu; StCu	1- 6	Cu	1- 3	Fires in several directions in pm
21	737.1	25.4	67	28.3	19.4		6.4	W	2	WNW	6	SW	14	SW	3	ACu	2- 6	Cu	4- 6	
22	739.6	20.6	57	26.8	11.2	0.01	10.2	SW	1	SSW	6	S	5	S	5	ACu; Cu; StCu	2- 6	ACu; Cu; StCu	4- 6	
23	741.4	20.6	55	29.7	10.6		9.1	S	2	ESE	7	ESE	1	S	5	CiCu; ASt; Cu	2- 6	ASt; Cu	4- 6	
24	741.7	24.2	40	33.3	12.5		10.1	SSW	2	SE	2	SSE	1	SSW	4	Ci; ASt; StCu	1- 6	ASt; StCu	4- 6	
25	741.2	23.5	46	34.9	13.4		9.5	S	1	SSE	2	NW	2	SSW	2	Ci; CiSt	7-10	Ci; CiSt	7-10	
26	740.0	18.9	90	24.3	17.8	0.05	2.0	..	0	W	1	W	7	SSW	7	ACu; ASt; StCu; Nb	10	ACu; ASt; StCu; Nb	10	Light rain in am
27	742.8	15.0	65	19.6	12.2	0.02	7.1	SSW	8	S	10	S	12	SSW	3	ACu; ASt; StCu; Nb	7-10	ACu; ASt; StCu	8- 3	Light rain in am
28	745.1	15.1	62	21.3	8.9		3.8	S	2	SE	2	S	9	SSW	3	StCu	7- 9	StCu; ASt	6- 4	Clearing in evening
29	746.5	17.2	62	25.6	7.7		10.8	SSE	1	E	6	ESE	8	SE	4		0		0	Dew early
30	747.1	20.6	52	28.0	10.3		10.8	SSE	4	E	7	E	7	SE	5		0		0	
31	745.5	23.6	34	29.8	10.5		10.7	SE	3	ENE	2	ENE	3	ESE	2		0		0	
SUM						0.17														
MEAN	740.2	23.3	55	31.2	15.5		8.5		2.7		7.0		6.2		4.9					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 447

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈60	60	61	76	125⌋	156	150	141	168	197	216	214	202	197	187	184	174	173	144	153	⌈122	70	66	61⌋	140	0
2	✓			⌈80	92	107	112	122	122	98	46	35	34	37	46	60	57	86	101	96	93	96	101⌋	113	115	121	122	87	0
3	✓	✓		138	156	164	147	136	⌈107	98	122⌋	150	144	138	101	119	138	153	⌈92	80	78	89	92	125	125	115	86⌋	121	0
4	✓	✓		⌈76	75	76	107⌋	153	168	197	203	205	214	214	191	171	156	138	141	135	132	139	132	153	179	184	191	155	0
5	✓	✓	✓	208	220	230	231	245	234	236	221	202	184	188	187	179	164	162	177	191	185	199	176	211	213	239	240	205	0
6	✓			239	234	243	260	275	240	217	230	230	210	199	205	197	182	151	≷93	96	147	191	135	133≷	155	150	138	190	2
7	✓	✓	✓	167	168	182	184	196	199	199	194	181	164	161	153	153	(150)	151	145	150	155	142	⌈93	110	110⌋	132	156	158	0
8	✓	✓		184	185	199	200	203	214	223	220	214	213	203	193	185	182	159	132	⌈106	106	92	84	106	107	78	92⌋	162	0
9	✓	✓	✓	⌈104	118	136⌋	162	171	184	194	208	208	226	220	(210)	177	171	164	⌈132	135	92	95	90	89	80	92	81⌋	147	0
10	✓	✓		⌈76	76	63	50	47	50	55	57	75	113⌋	133	127	132	141	145	136	107	⌈78	60	61	57	41	47	46⌋	82	0
11	✓	✓		⌈47	47	43	46	61	90⌋	135	176	203	184	155	119	136	145	124	⌈76	67	60	57	58	80	92	90	76⌋	99	0
12	✓	✓		⌈60	60	80	122⌋	164	184	199	223	228	220	210	199	203	202	197	199	(194)	194	199	185	⌈159	64	63	67⌋	161	0
13	✓			⌈75	92	119	153⌋	177	219	277	356	382	358	303	274	243	214	213	205	≷153	73	124≷	197	167	142	⌈61	81⌋	194	2
14	✓	✓	✓	⌈107	101	132	113	125⌋	184	231	230	213	203	184	176	173	(170	167)	⌈113	132⌋	153	155	153	159	205	219	184	166	0
15	✓	✓	✓	196	225	239	245	251	291	263	205	176	150	138	122	127	118	107	78	92	121	133	139	138	142	145	⌈124⌋	165	0
16	✓	✓		⌈89	61	52	55	61	58	50	60	73	80	81	96	101	87	90	92	96	92	47	44	55	57	60	55⌋	70	0
17	✓			⌈47	50	49	49	63	86	156⌋	231	245	249	226	205	185	193	194	184	⌈112	107⌋	141	138	⌈80	47	50	50⌋	131	0
18	✓			⌈55	60	64	87	103	141⌋	190	233	263	291	268	243	228	223	225	≷70	248≷	⌈150	86	73	63	55	73	50⌋	148	1
19	✓	✓		⌈47	86	136⌋	173	167	176	181	214	242	228	194	194	190	193	177	199	188	155	153	173	181	173	197	203	176	0
20	✓			217	231	236	248	246	246	272	257	207	191	184	⌈132	167	121	93	122	32	(43)	72	29	37	27	29	34⌋	145	0
21				—	—	—	—	—	—	—	—	151	151	170	174	170	(156)	⌈129⌋	135	124	121	129	⌈107	122	107	121⌋	168		0
22	✓	✓	✓	164	156	153	165	161	150	161	164	150	139	148	139	124	132	99	101	101	122	136	132	127	127	132	121	138	0
23	✓	✓		⌈103	87	76	80	80	92	107⌋	162	217	245	208	⌈122	70	101⌋	132	151	155	151	170	173	⌈75	73	75	67⌋	124	0
24	✓	✓		⌈60	61	61	52	50	73	95	135⌋	211	256	266	260	233	228	213	217	199	207	⌈58	15	27	23	52	76⌋	130	0
25	✓	✓		⌈78	72	64	60	60	61	61	66	76	107⌋	122	122	130	138	130	122	⌈81	41	27	35	61	57	46	49⌋	78	0
26	✓	✓		⌈60	66	64	63	61	61	52	52	69	60	60	50	47	44	46	50	60	60	58	87⌋	124	142	156	174	74	2
27	✓	✓	✓	156	132	129	138	133	139	135	122	141	136	142	133	129	115	130	122	115	107	127	⌈107	115⌋	127	141	135	129	0
28	✓	✓	✓	122	127	133	141	153	168	168	181	174	176	168	173	170	174	(158)	150	138	124	136	127	150	153	133	116	151	0
29				125	122	116	107	115	136	164	210	221	223	199	182	203	208	188	188	171	151	⌈98	95	173	76	75	73⌋		0
30				⌈92	125⌋	158	194	210	231	266	304	298	288	243	205	213	214	210	210	199	⌈125	78	144⌋	150	177	197	188		0
31	✓			185	200	226	234	259	291	335	370	320	274	230	210	177	184	197	184	194	193	199	199	⌈153	191	47	46⌋	212	0
MEANS * 28 DAYS				114	118	126	134	145	157	169	181	188	187	178	164	157	154	150	135	130	121	119	114	113	110	107	104	141	
MEANS † 21 DAYS				110	111	118	124	133	145	152	160	170	173	169	156	150	150	144	134	128	123	115	110	115	112	117	114	135	
MEANS ‡ 8 DAYS				153	156	167	172	179	194	198	191	181	172	169	162	154	149	142	127	132	132	140	127	137	145	154	145	157	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 448

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[31	28	42	45	96]	142	139	138	176	206	228	230	216	194	176	171	153	146	112	124	[107	55	42	42]	127	0
2	✓			[56	57	67	73	82	82	66	29	28	29	29	32	41	41	60	84	84	74	73	74	80	70	43	43]	58	0
3	✓	✓		[93	84	100	101	84	71	69]	97	138	133	123	84	93	112	128	[85	59	60	66	67	100	97	92	60]	92	0
4	✓	✓		[57	56	55	84]	146	165	202	214	216	228	226	201	175	156	131	133	126	119	134	119	124	148	155	164	147	0
5	✓	✓	✓	171	185	189	197	203	213	218	214	206	180	185	184	167	155	153	167	178	173	178	146	171	184	203	214	185	0
6	✓			201	202	214	214	226	233	204	206	203	190	189	214	190	178	142 }	146	138	92	221	158 }	122	135	124	119	178	2
7	✓	✓	✓	138	143	171	173	176	198	202	198	179	171	165	148	138	141	(124)	127	135	138	137	[82	88	97]	123	139	147	0
8	✓	✓		165	167	182	189	193	210	215	218	222	214	202	182	167	171	150	119	[90	97	78	74	84	84	56	67]	150	0
9	✓	✓	✓	[70	84	101]	128	138	156	171	202	214	221	(202	189)	185	164	155	[123	115	84	89	84	74	70	84	70]	132	0
10	✓	✓		[69	67	50	42	39	39	42	45	66	100]	124	120	124	127	128	120	96	[69	46	50	38	29	29	28]	70	0
11	✓	✓		[34	28	28	28	34	70]	111	160	199	178	151	109	124	141	111	[60	56	46	41	43	64	73	66	50]	84	0
12	✓	✓		[38	34	46	86]	128	160	185	222	238	228	226	216	218	216	204	203	(184)	189	178	160	[124	45	42	42]	150	0
13	✓			[48	69	89	123]	158	204	258	351	409	388	336	295	246	234	221	206 }	171	119	164	206 }	151	124	[50	64]	195	2
14	✓	✓	✓	[75	78	90	85	86]	164	209	218	206	198	169	173	167	166	176	[101	115]	138	130	123	137	167	179	150	146	0
15	✓	✓	✓	146	189	189	214	239	263	249	190	164	135	114	100	114	101	92	71	84	111	114	118	120	133	126	[108]	145	0
16	✓	✓		[69	43	41	34	43	42	39	42	66	70	69	86	88	71	71	73	82	74	34	31	34	36	36	38]	55	0
17	✓			[28	28	28	32	36	57	126]	226	261	261	233	204	187	189	187	179	[103	93]	120	100	[43	38	28	28]	117	0
18	✓			[27	31	36	53	69	100]	164	226	265	283	260	225	214	193 }	180	185 }	273	[146	70	53	52	55	64	42]	136	1
19	✓	✓		[41	69	116]	139	137	151	152	199	236	227	190	192	187	189	171	202	193	156	151	176	176	162	189	197	167	0
20	✓			204	225	227	230	227	239	263	243	214	193	185	[119	171	111	78	119	28	(20)	59	18	18	17	18	14]	135	0
21				[27	42]	—	—	—	—	—	—	155	153	165	175	164	(158)	[111]	124	111	99	109	[70	84	56	85]	114		0
22	✓	✓	✓	111	105	115	119	122	105	124	135	135	134	135	130	112	99	85	88	84	105	111	111	101	103	108	90	111	0
23	✓	✓		[70	56	52	50	56	69	93]	147	214	239	202	[111	52	78]	111	123	127	138	151	139	[56	48	55	42]	103	0
24	✓	✓		[29	32	35	32	31	49	70	111]	193	254	265	262	230	216	209	206	184	188	[45	36	36	36	43	60]	119	0
25	✓	✓		[59	46	36	29	34	42	42	45	60	88]	119	105	111	126	120	109	[69	42	27	29	42	41	36	34]	62	0
26	✓	✓		[32	46	43	43	42	43	70	64	70	52	53	46	42	35	34	36	42	48	42	64]	97	118	109	120	58	2
27	✓	✓	✓	134	108	101	100	97	100	97	92	123	119	128	114	111	101	119	111	97	93	112	[90	71]	88	111	97	105	0
28	✓	✓	✓	90	94	86	90	100	119	135	138	152	153	155	164	164	164	(153)	127	111	101	100	92	100	108	92	88	120	0
29				—	—	—	—	—	—	—	—	216	216	190	178	209	214	189	188	158	138	[80	75	124	48	46	52]		0
30				[56]	—	—	—	—	—	—	—	294	287	249	203	208	198	203	202	187	[107	60	115]	111	137	158	153		0
31	✓			146	164	194	226	242	273	302	340	309	282	243	204	164	173	187	167	169	162	178	164	[118	134	31	27]	192	0
MEANS * 28 DAYS				87	90	97	106	117	134	151	168	184	184	175	159	150	144	138	130	120	108	106	98	90	89	83	80	124	
MEANS † 21 DAYS				82	83	89	96	106	122	135	147	165	168	163	150	142	139	133	122	113	110	99	93	93	92	94	90	118	
MEANS ‡ 8 DAYS				117	123	130	138	145	165	176	173	172	164	157	150	145	136	132	114	115	118	121	106	108	119	128	120	136	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION } {=DISTURBED BY BAD WEATHER

TABLE 449

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[Z+	Z+	Z+	Z+	235	179	111]	75	57	59	73	79	78	74	75	79	82	78	70	72	74	[97	252	295]		0
2	✓	✓		[318	275	266	158]	78	63	69	60	58	63	72	66	67	73	74	72	70	77	60	65	79	76	80	83	101	0
3	✓	✓	✓	80	77	77	66	52	45	35	43	53	57	54	55	63	64	69	69	75	77	60	55	64	[109	116	91]	67	0
4				[107	95	94]	67	63	51	46	49	53	57	59	76	72	79	88	94	99	80	64	64	} Z	Z {	[Z+	Z+]		1
5				[Z+	222	Z+	296	Z+	278	208	211	226	223	235	207	184	174	160	176	180	184	180	222	279	232	170]	—		0
6				—	—	—	—	—	—	—	87	93	98	99	112	119	117	122	110	[118	124	117	133	126]	100	81	73		0
7	✓	✓	✓	69	74	76	85	70	69	67	85	79	83	87	81	93	86	85	101	96	111	97	98	94	90	101	88	86	0
8	✓	✓		80	68	60	52	46	38	40	60	77	86	88	92	N 64	65	73	83 {	92	100	88	97	83	74	86	90	74	1
9	✓	✓		77	70	N 32 }	83	83	79	84	N 96	103	N 50 }	97	77	78	N 52	N 54	77	N 81	N 2	57	N 51	N 88	N 3 }	106	109	70	1
10	✓	✓	✓	120	106	129	127	118	93	80	83	86	93	121	130	114	116	98	119	112	144	125	135	124	138	123	109	114	0
11	✓	✓	✓	111	97	100	96	91	86	66	88	82	93	97	106	112	109	106	97	92	80	72	76	69	68	83	98	91	0
12	✓	✓	✓	71	81	70	73	63	52	41	45	51	52	53	62	65	68	68	78	82	72	65	77	72	70	60	60	65	0
13	✓	✓		51	58	55	52	50	41	41	43	59	55	60	63	68	66	70	73	63	61	[102	68	83 }	N 113 }	[146	137]	70	0
14	✓	✓		[106	166	214	178	133	138]	91	83	84	74	66	65	62	69	62	76	65	[102	224 }	N 124	170 }	[212	171	140]	120	1
15	✓	✓		[143	162	154	152	157	134	124]	108	114	88	74	90	95	88	88	95	95	88	81	80	98	117	90	111	109	0
16	✓	✓		100	74	75	53	38	41	43	41	32	70	70	68	71	64	65	74	60	[91	96	161	145	111	134	151]	80	0
17	✓	✓		[103	83	79	102	108	94	103	139	97]	73	65	69	77	73	90	83	77	81	[142	266	188	171	166	156]	112	0
18	✓	✓		[156	128	92]	69	65	69	62	49	48	52	51	51	52	58	60	60	68	69	59	72	74	70	65	64	69	0
19	✓	✓	✓	53	51	46	46	40	34	35	44	54	60	63	60	60	65	73	72	74	80	60	68	69	83	68	79	60	0
20	✓	✓	✓	80	77	80	78	76	61	57	65	66	63	64	68	77	78	80	81	79	75	73	63	66	60	59	65	70	0
21	✓	✓	✓	62	80	88	93	84	66	57	64	77	79	91	84	81	83	89	88	88	73	53	85	93	91	86	80	80	0
22	✓	✓	✓	78	77	65	47	47	46	41	43	51	57	58	60	69	83	83	71	78	101	91	103	88	96	88	111	72	0
23	✓	✓		83	105	[71	69	71	58]	93	78	70	70	74	78	89	84	89	93	88	98	106	[128	120	138	158	180]	95	0
24				[185	186	172	195	178	188	203	Z	143]	94	82	83	77	76	86	88	81	88	79	91	[148	152	125]	101		0
25	✓	✓	✓	101	99	85	81	77	69	55	48	44	43	53	60	65	69	69	68	65	57	53	61	76	68	65	57	66	0
26	✓	✓		51	49	45	46	41	47	41	47	53	56	57	65	65	71	66	72	75	[82	100	92	135	152	203	254]	82	0
27	✓	✓		[213	156	248	185	133	105	189	129]	94	82	78	73	74	83	81	74	85	[95	100	107	120	138	139	148]	122	0
28	✓			[157	155	123	160	151	143	134	105]	69	55	51	45	47	51	53	60	64	[87	115	139	124	124	124	123]	102	0
29	✓	✓	✓	100	89	87	79	78	71	65	65	98	103	97	92	91	91	87	97	88	85	86	83	75	77	84	106	86	0
30	✓	✓	✓	113	114	103	100	105	105	98	90	77	71	68	68	78	76	87	85	88	83	81	83	65	84	93	91	88	0
31																													
MEANS * 25 DAYS				107	103	101	93	82	74	72	72	71	69	72	73	75	75	77	81	80	83	90	97	98	101	108	111	86	
MEANS † 24 DAYS				105	101	100	90	79	71	70	71	71	70	73	74	76	76	78	82	81	83	89	96	97	100	107	111	86	
MEANS ‡ 12 DAYS				86	85	84	81	75	66	58	64	68	71	76	77	81	82	83	86	85	86	76	82	80	86	86	86	79	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE [ ] = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } { = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALUE

TABLE 450

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	745.1	24.4	38	29.8	11.5		10.7	..	0	NE	4	ENE	10	ESE	3	CiSt	1- 3	CiSt	1- 3	
2	744.5	23.3	39	29.8	13.3		10.5	S	1	NE	14	NNE	5	E	1	ACu	1- 3	ACu	4- 6	
3	744.0	23.8	34	30.8	15.1		10.4	ENE	4	NE	6	SW	2	ESE	1	ACu	1- 3	ACu	4- 6	Fires in SW
4	741.3	24.6	28	32.3	13.6		10.1	SE	1	NNE	8	NNE	3	WSW	1	ACu; Cu; StCu	1- 3	ACu; Cu; StCu	4- 8	Thin haze over part of sky at 9h; light rain in late pm
5	737.3	21.3	63	26.6	15.6	T	10.3	S	3	S	9	SSW	11	SSW	2	CiCu	1- 3	CiCu; ACu	4- 6	Smoky in am
6	738.5	18.7	65	23.5	10.2		10.3	SW	2	WSW	3	SW	8	SW	1	ACu; Cu	3- 6	ACu; StCu	4- 6	Dew early
7	740.0	17.4	69	23.9	8.5		4.4	SW	1	ENE	1	NW	1	SSW	2	ACu; Cu	7-10	Ci; ACu; Cu	10	
8	735.1	18.9	66	21.4	8.5		4.5	..	0	WSW	1	SSW	8	WSW	1	ASt; ACu; Cu	5-10	Cu; StCu; CuNb	10- 6	Rain in early pm
9	734.8	15.0	90	16.4	8.0	0.13	3.2	WNW	4	W	5	WSW	10	WSW	7	Cu; Nb	10	Ci; Cu; StCu; Nb	6- 8	Intermittent rain throughout
10	743.7	14.2	72	19.7	8.5	0.23	8.9	SW	4	ESE	7	S	2	WSW	4	ASt; Cu	1- 3	Cu	6- 3	
11	747.6	15.6	57	22.8	6.0		10.5	SSE	2	ESE	6	ESE	8	S	4	CiCu	1- 3	CiCu	4- 6	
12	747.5	18.6	42	27.7	8.0		10.2	ESE	2	NE	8	NE	6	SE	3		0		0	Fire in W
13	746.5	20.4	33	30.8	8.7		9.9	NNE	2	NNE	5	NNW	2	ENE	2		0		0	
14	744.7	20.6	40	32.2	7.7		10.2	S	1	..	0	NNW	1	S	3		0		0	
15	743.5	23.2	34	33.9	7.8		10.2	S	1	N	1	NNW	3	S	1		0		0	
16	745.2	21.7	35	33.3	7.4		10.3	W	1	..	0	NE	1	SSE	4		0		0	
17	746.2	23.1	54	32.2	13.0		9.6	SSW	1	SE	2	ESE	2	S	4	Ci; CiSt	7-10	Ci; CiSt	7-10	
18	745.9	21.7	58	32.7	16.4		9.8	SSE	3	ESE	9	ENE	2	S	5	Ci; CiCu	4- 6	Ci; CiCu	1- 3	
19	745.8	26.2	36	32.1	14.6		8.1	..	0	NNE	3	NE	7	SSE	2	CiSt; CiCu	4- 8	CiSt; CiCu; ASt	7- 8	
20	746.0	21.7	45	29.6	16.6		9.8	NE	10	NE	8	NE	5	E	1	Ci; ACu; ASt	8- 4	Ci; ACu; ASt	3- 1	
21	744.9	20.8	42	28.9	14.5		10.0	NE	8	NE	9	NE	4	ENE	1	Ci; CiCu	1- 3	CiCu	1- 3	
22	743.1	21.5	37	31.3	10.6		10.1	..	0	N	2	SW	2	..	0		0		0	
23	743.3	21.6	48	28.3	8.8		4.8	NW	1	..	0	SSW	4	SSE	3	Ci; CiCu; CiSt; ACu	8- 4	Ci; CiCu; CiSt	3- 1	
24	746.0	18.9	79	26.7	13.2		8.5	SE	6	SSE	7	SE	5	SSW	4	Cu	8- 3	CiCu	3- 6	Mist early
25	745.0	20.9	34	29.4	10.6		9.8	SE	3	E	4	NNE	7	..	0	Ci	1- 3	Ci; CiCu	4- 6	
26	743.8	21.0	35	29.4	8.1		9.8	NNE	1	NNW	2	NNW	2	S	3		0	Ci	1- 3	
27	745.0	18.1	89	26.2	11.5		8.1	..	0	SE	2	S	1	S	4	Ci; CiSt; CiCu	6- 8	Ci; CiCu	6- 8	Mist early
28	745.2	17.5	62	27.6	10.1		9.8	..	0	SSE	6	SW	2	SSW	4	Ci; CiCu	3- 6	Ci; CiCu	3- 6	
29	746.5	18.2	81	23.1	10.5		9.4	SW	2	S	2	S	9	S	7	Cu	3- 6	Cu	3- 6	Dew early
30	749.8	14.3	60	21.2	7.0		9.8	S	6	SE	7	SSE	7	SSE	4	Ci; ACu	1- 3	Ci; ACu	1- 3	Dew in evening
31																				
SUM						0.36														
MEAN	743.9	20.2	52	27.8	10.8		9.1	2.3		4.7		4.7		2.7						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 451

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[56	58	58	58	75	108	156]	244	291	260	212	184	171	166	171	162	150	147	154	135	171	[174	74	54]	145	0
2	✓	✓		[64	62	80	147]	224	261	274	273	255	240	225	200	194	189	190	174	188	180	195	178	195	210	240	240	195	0
3	✓	✓	✓	249	260	273	286	300	321	322	315	264	240	(201	190)	188	178	165	153	150	164	171	172	180	[135	158	176]	217	0
4	✓			[180	184	224]	250	261	285	285	290	270	231	219	208	189	(174)	160	135	150	153	129	147	≷ 140	96 ≶	[45	40]	185	1
5				[44	60	72	60	48	58	66	63	45	34	45	30	39	36	34	54	51	56	64	56	56	70	130]	148		0
6				140	144	140	129	—	—	—	—	194	159	153	150	152	153	159	162	[140	122	150	130	146]	180	225	225		0
7	✓	✓	✓	248	246	243	237	240	258	240	224	207	198	195	189	180	189	189	180	183	165	164	170	180	189	190	198	204	0
8	✓	✓		210	230	273	315	352	392	392	303	234	194	194	162	154	152	152	162	165	168	165	165	183	194	207	224	223	1
9	✓	✓		264	266	≷ 230 ≶	225	224	228	188	165	165	≷ 148 ≶	147	150	150	≷ 147	150 ≶	150	147	≷ 136 ≶	140	144	156	≷ 141 ≶	160	159	174	1
10	✓	✓	✓	153	150	164	165	166	176	194	204	168	164	120	94	106	106	105	118	130	126	105	124	152	134	147	135	142	0
11	✓	✓	✓	135	138	138	150	156	165	182	201	208	180	158	135	124	(114)	134	[123]	150	178	189	171	204	198	195	182	163	0
12	✓	✓	✓	212	225	249	268	285	314	344	378	310	285	255	240	226	220	208	222	[189]	213	165	204	238	237	270	297	252	0
13	✓	✓		328	328	330	344	328	330	321	334	290	255	222	208	194	195	195	189	195	213	[108	147	152	122	75	87]	229	0
14	✓	✓		[96	86	64]	(84	104	123	142	160)	180	194	210	210	204	201	206	210	210	[146	34	81	58	64	88	108]	136	1
15	✓	✓		[105	104	105	116	118	120	123]	152	176	220	243	230	210	202	194	156	164	166	166	154	141	129	123	118	156	0
16	✓	✓		124	152	177	258	354	315	286	324	356	240	177	176	188	183	188	183	189	[104	78	39	69	105	102	90]	186	0
17	✓	✓		[114	124	120	120	120	105	100	92	140]	188	189	180	177	174	152	150	165	166	[88	44	78	90	96	100]	128	0
18	✓	✓		[99	114	165]	225	224	213	230	238	256	266	219	214	222	246	(225)	234	194	176	201	189	177	174	196	225	205	0
19	✓	✓	✓	238	252	272	282	310	304	285	285	268	234	210	208	204	188	186	194	183	165	180	147	174	189	256	230	227	0
20	✓	✓	✓	226	266	274	274	272	270	276	270	236	220	220	213	214	213	222	218	216	219	[188]	225	230	240	284	278	240	0
21	✓	✓	✓	300	285	282	284	294	303	318	303	261	240	220	212	210	202	196	201	206	195	[129	140	180]	202	222	228	234	0
22	✓	✓	✓	244	246	279	344	366	372	366	384	375	300	294	255	220	195	198	208	195	[152]	166	136	171	144	136	165	246	0
23	✓	✓		194	180	[270	258	240	254]	186	213	250	243	219	195	189	198	182	182	172	164	153	[135	132	140	126	126]	192	0
24	✓			[108	90	74	104	106	104	94	51	116]	148	178	180	192	194	134	165	147	154	165	156	[94	98	140]	165	132	0
25	✓	✓	✓	178	208	222	225	228	258	288	328	380	362	297	244	230	(214)	207	218	195	210	218	[188	168	200]	230	244	239	0
26	✓	✓		285	321	348	357	392	380	376	374	327	280	243	216	219	218	210	210	200	[180	120	150	104	86	80	80]	240	0
27	✓	✓		[99	110	82	94	120	129	99	135]	153	159	160	168	177	178	184	192	170	[140	134	111	110	105	105	98]	134	0
28				[105	100	105	100	111	117	124	154]	230	294	333	354	350	332	312	294	243	[156	94	90	114	106	116	105]		0
29	✓	✓	✓	126	148	176	176	177	186	195	(195)	136	134	140	146	129	124	150	130	150	123	120	117	132	130	120	104	144	0
30	✓	✓	✓	100	102	105	108	118	120	134	152	180	188	180	172	172	164	[135	165]	165	147	150	153	147	164	164	170	148	0
31																													
MEANS * 27 DAYS				175	183	195	213	228	237	237	244	239	223	205	192	186	182	177	177	175	165	147	145	152	151	157	160	189	
MEANS † 24 DAYS				183	192	205	223	238	246	244	250	241	224	206	192	187	183	180	180	178	166	147	145	155	155	165	169	194	
MEANS ‡ 12 DAYS				201	210	223	233	243	254	262	270	249	229	208	192	184	176	175	178	176	171	162	162	180	180	198	201	205	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			[25	25	34	32	55	71	114]	207	287	265	213	180	174	169	169	150	135	134	133	100	134	[135	45	36]	126	0
2	✓	✓		[34	36	41	86]	180	228	228	274	275	255	226	202	192	182	169	148	165	158	167	152	150	164	209	212	172	0
3	✓	✓	✓	226	236	252	255	271	288	306	294	258	237	(201)	206	189	173	155	150	141	147	156	164	151	[103	124	158]	202	0
4	✓			[143	156	171]	221	236	261	264	263	262	240	226	207	182	170	(165)	111	124	134	111	120	≷ 55	62 ≶	[36	28]	164	1
5				[24	39	42	36	28]	—	—	—	—	—	—	[25	22	28	27	34	38	39	42	48	34	28	38	75]	101		0
6				92	90	88	[62]	111	130	171	164	151	143	138	139	146	143	147	148	[112	97	120	111	84]	118	176	213		0
7	✓	✓	✓	210	212	213	180	216	232	225	188	180	173	169	161	171	161	161	162	160	135	134	124	112	96	124	130	168	0
8	✓	✓		176	204	215	262	332	348	401	284	220	190	176	152	151	147	142	150	142	135	128	123	124	164	169	182	197	1
9	✓	✓		246	261	≷ 240 ≶	213	210	213	164	141	135	≷ 139 ≶	141	152	156	≷ 156	158 ≶	151	137	150	135	≷ 134 ≶	123	≷ 127 ≶	124	114	163	1
10	✓	✓	✓	124	124	115	124	109	123	138	158	179	141	96	75	86	88	93	90	108	81	81	89	114	97	99	99	110	0
11	✓	✓	✓	101	107	115	124	139	142	150	175	206	175	142	126	109	111	124	[111]	142	169	170	142	164	156	156	155	142	0
12	✓	✓	✓	187	189	214	240	260	292	317	348	320	299	269	240	226	215	206	207	[171]	190	151	176	214	204	238	264	235	0
13	✓	✓		300	306	306	323	312	337	317	328	284	262	230	213	197	194	184	171	184	165	[209	251	126	85	67	59]	225	0
14	✓	✓		[71	67	42	57	67	88]	124	139	153	182	214	215	215	206	209	201	197	[119	27	64	36	42	56	80]	120	1
15	✓	✓		[81	80	73	85	93	84	97]	130	142	204	243	238	214	201	189	152	158	153	139	130	97	88	111	100	137	0
16	✓	✓		114	138	151	239	333	295	295	323	339	218	164	161	171	175	176	171	188	[86	69	34	46	82	74	67]	171	0
17	✓	✓		[93	99	111	101	97	82	84	73	115]	152	166	164	158	156	128	128	143	133	[66	31	56	64	64	82]	106	0
18	✓	✓		[78	88	138]	201	202	194	250	225	278	269	218	213	218	238	(231)	225	171	153	184	164	151	146	171	192	192	0
19	✓	✓	✓	219	238	260	273	298	296	277	263	245	225	213	207	204	184	179	187	175	161	167	128	151	164	236	220	215	0
20	✓	✓	✓	215	251	263	261	245	250	258	244	222	218	214	213	214	209	207	201	199	192	[157]	199	198	209	242	245	222	0
21	✓	✓	✓	281	261	251	245	245	261	270	273	242	238	209	204	204	193	189	182	180	170	[114	108	126]	169	192	202	209	0
22	✓	✓	✓	218	218	251	312	355	352	362	371	349	302	292	258	216	184	189	185	179	[120]	135	111	130	118	124	120	227	0
23	✓	✓		166	166	[255	263	226	265]	167	179	227	226	199	167	167	184	162	162	151	134	119	[97	92	100	86	82]	168	0
24	✓			[67	66	56	74	70	55	52	28	88]	139	174	175	188	185	124	152	139	135	141	133	[74	71	104]	135	109	0
25	✓	✓	✓	160	165	184	188	193	227	264	320	373	360	292	246	231	218	(197)	207	180	187	206	[171	124	165]	204	206	220	0
26	✓	✓		265	317	319	333	363	363	371	371	326	280	250	214	207	204	199	194	187	[167	97	128	78	64	46	36]	224	0
27	✓	✓		[49	67	55	69	96	108	73	111]	134	158	158	164	165	160	158	165	147	[124	114	100	84	75	84	82]	112	0
28				[70	74]	—	—	—	—	—	—	249	292	330	347	339	319	306	187	237	[146	84	78	96	85	92	82]		0
29	✓	✓	✓	100	123	138	142	142	153	164	165	137	115	124	128	119	107	137	120	111	115	109	109	124	119	107	88	125	0
30	✓	✓	✓	84	84	90	96	97	104	114	134	171	187	188	180	171	155	[116	138]	141	123	124	124	122	124	115	119	129	0
31																													
MEANS * 27 DAYS				149	159	169	185	202	212	217	223	228	217	200	187	181	175	167	162	158	143	131	126	117	118	126	129	170	
MEANS † 24 DAYS				158	168	179	195	212	222	226	230	230	217	200	187	181	175	169	165	161	144	132	127	121	122	134	137	175	
MEANS ‡ 12 DAYS				177	184	196	203	214	227	237	244	240	222	201	187	178	166	163	162	157	149	142	137	144	144	163	167	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 453

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			100	103	86	74	55	69	56	71	72	61	59	74	70	70	77	85	81	73	52	56	56	59	65	70	71	0
2	✓	✓		65	68	63	60	60	66	67	64	59	57	55	60	74	85	78	77	74	66	64	64	⌈106	187	210	212⌋	85	0
3	✓	✓		⌈181	166	186	174	126	91⌋	74	71	52	52	57	69	75	76	84	84	⌈ 88	97	97	110	88⌋	76	65	58	96	0
4	✓	✓	✓	47	45	50	47	45	44	49	48	52	66	67	68	73	80	74	79	74	60	42	45	51	54	50	46	56	0
5	✓	✓	✓	46	40	42	40	40	35	36	37	42	51	56	63	64	70	75	75	76	68	70	62	53	64	60	57	55	0
6	✓	✓		58	53	47	46	45	39	41	42	41	44	51	60	64	62	N 41	78	32	79	60	74	⌈ 94	93	121	116⌋	62	1
7	✓	✓	✓	85	88	56	64	94	82	82	38	60	70	68	70	77	79	69	93	74	64	64	78	87	82	89	94	75	0
8	✓	✓		97	97	105	94	102	105	83	65	60	42	36	42	43	48	55	N 35	N 3	74	65	74	76	78	83	70	68	1
9				N 57	Z	N 44	Z	53	69	68	60	N 30	64	64	71	72	74	80	91	37	88	79	80	74	74	98	97		1
10				70	77	84	74	74	—	—	—	46	56	51	37	42	48	58	60	71	66	63	61	60	60	44	46		0
11				55	46	57	Z	57	131	77	87	Z	101	N 84	Z	103	100	120	110	112	111	100	89	73	69	74	65		1
12	✓	✓		58	65	70	68	N 81	⌈108	119	95⌋	92	76	79	83	88	80	88	96	88	85	82	71	66	70	61	58	80	0
13	✓	✓	✓	47	47	46	45	48	42	35	35	42	70	80	89	79	94	96	92	82	57	56	47	37	61	65	70	61	0
14	✓	✓	✓	70	65	56	54	52	53	48	46	47	57	74	61	75	73	74	79	79	71	74	92	110	110	96	94	71	0
15	✓	✓	✓	92	80	74	71	69	62	59	51	45	51	54	61	70	84	90	79	77	59	54	59	65	65	70	73	67	0
16	✓	✓	✓	66	56	48	55	55	55	46	43	45	43	52	62	65	70	70	69	65	52	59	65	70	79	⌈ 94	107⌋	62	0
17	✓	✓	✓	74	61	54	50	49	46	37	38	39	40	52	60	60	65	76	77	70	51	56	62	70	70	71	74	58	0
18	✓	✓	✓	65	58	56	55	51	46	43	42	37	37	45	59	60	58	60	62	60	41	51	60	79	80	69	58	56	0
19	✓	✓	✓	58	59	53	47	47	32	31	33	38	45	54	53	62	69	70	75	79	81	83	84	84	79	76	64	61	0
20				62	55	Z	56	51	75	80	Z	Z	Z	Z	Z	Z	Z	Z	80	70	65	Z	Z	Z	37	58	100		2
21				−52	−195	−3	75	83	74	79	65	64	N 18	N 1	−2	61	92	90	N 83	Z	N 3	66	78	64	92	84	71		2
22	✓	✓		56	83	107	121	N 88	97	116	106	109	111	105	103	77	111	101	N116	117	105	99	90	83	79	74	89	98	1
23				86	78	96	102	93	92	92	80	Z	Z	Z	Z	Z	Z	Z+	Z	Z	Z	Z	Z	89	98	Z	Z		2
24				Z	Z	Z	Z	Z	Z	101	Z	Z	Z	Z	97	Z	Z	106	100	104	102	84	76	69	63	76	70		2
25	✓	✓	✓	64	68	88	88	79	64	66	59	64	68	94	84	92	88	102	111	108	92	74	74	82	92	83	64	81	0
26				⌈ 78	45	51	60	56	70	62	47	72⌋	80	69	N 52	Z	126	91	92	87	84	N 60	83	78	69	N 44	81		1
27	✓			57	69	97	97	N 70	80	71	70	N 81	N101	126	85	73	N 69	85	88	95	87	84	93	90	92	97	93	85	1
28	✓	✓		81	77	88	93	97	99	93	68	74	71	68	57	57	48	58	71	81	[64	32⌋	66	70	60	65	86	72	0
29	✓			78	59	64	69	65	57	53	55	52	51	64	84	92	103	107	99	103	71	69	79	89	99	89	85	76	0
30	✓			100	79	70	71	66	61	55	61	60	61	66	78	79	83	86	92	83	60	58	64	51	46	46	52	68	0
31				45	46	51	52	41	41	39	39	38	45	50	Z	Z	Z	N103	Z	46	Z	N 57	88	65	63	70	84		2
MEANS * 22 DAYS				75	72	73	72	67	65	62	56	57	60	66	69	71	76	78	82	77	71	66	71	75	81	82	81	71	
MEANS † 18 DAYS				73	71	72	71	68	65	62	54	55	58	64	67	70	74	76	80	74	70	66	71	76	82	83	83	70	
MEANS ‡ 11 DAYS				65	61	57	56	57	51	48	43	46	54	63	66	71	75	78	81	77	63	62	66	72	76	75	73	64	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⌇ ⌇ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALUE

TABLE 454

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	748.9	14.9	68	20.6	6.1		9.6	..	0	SE	4	ESE	4	SE	3	CiSt; ACu	1- 6	CiSt; ACu	1- 3	
2	748.1	16.0	58	24.5	5.8		9.8	S	2	SSE	1	NE	1	SSE	5		0		0	Fire in SW
3	748.6	18.2	48	27.1	7.7		9.8	S	2	..	0	NE	5	ESE	1		0		0	Fires in E and W
4	748.7	21.2	37	28.9	9.6		9.6	N	1	NNE	1	N	5	..	0	Ci	1- 3	Ci	1- 3	
5	746.8	21.9	31	30.0	10.1		7.9	..	0	N	3	NW	2	ENE	1	Ci; CiSt	2- 6	Ci; CiSt	7- 8	
6	748.9	17.3	41	26.8	10.5		0.9	..	0	NNW	2	WSW	10	S	2	CiSt; ACu; ASt	10	CiSt; ASt; Cu	10	
7	744.5	17.1	91	25.0	13.3	T	5.3	SSE	1	SSE	1	SE	1	S	2	Cu; StCu; Nb	9-10	CiCu; ACu; ASt; Cu	8- 3	Light rain in early hours
8	743.0	17.2	69	24.2	11.1		1.0	SSW	2	S	1	S	4	S	5	ACu; ASt; StCu	9-10	ACu; ASt	9-10	
9	742.2	17.2	74	23.8	14.0	0.02	4.5	SE	2	SSW	2	SSW	7	S	2	ACu; ASt	10	ACu; ASt; Cu	7-10	Light rain in early hours
10	741.3	15.2	91	21.3	11.2	T	0.0	SSW	1	WNW	1	NW	3	W	1	ACu; ASt; StCu; CuNb	7-10	ACu; ASt; StCu; CuNb	7-10	Lightning in W in evening
11	739.5	15.0	88	18.0	11.2	0.10	6.1	N	2	WSW	7	SSW	13	SW	2	ACu; Cu; CuNb	7-10	ACu; Cu; CuNb	7-10	Rain in early hours and during am
12	745.2	13.0	80	17.7	6.6	0.13	5.4	..	0	..	0	S	4	SW	2	CiCu; Cu	8- 6	CiCu; CiSt	6- 1	Rain in early hours, possibly fog
13	746.3	15.3	76	20.3	6.6		6.0	..	0	..	0	SE	5	SE	3	ACu; Cu; StCu	7-10	ACu; Cu; StCu	7-10	Dew early
14	746.6	14.0	65	19.8	5.2		9.5	SE	1	..	0	ESE	2	SSE	3	CiCu; ACu; Cu	1- 3	CiCu; ACu; Cu	1- 3	Dew early
15	746.2	14.3	59	21.9	5.2		9.5	SSE	2	SE	2	E	6	SE	5		0		0	Thin haze over part of sky at 9h
16	745.2	15.6	46	23.7	5.3		9.2	SSE	2	..	0	NE	3	SE	2	Ci; CiSt	1- 3		0	
17	744.4	14.7	40	23.2	4.7		9.2	SW	1	SSE	1	E	6	SSE	4		0		0	
18	742.6	17.8	50	24.8	5.9		8.2	SSE	2	NNE	1	N	4	S	4	Ci; CiSt; ACu	7-10	Ci; CiSt; ACu	7-10	
19	740.2	15.4	57	23.9	7.5		2.8	..	0	..	0	NW	1	SSE	3	Ci; CiSt; ACu; StCu	7-10	Ci; CiSt; ACu; StCu	7-10	
20	738.6	14.4	74	16.7	12.8	0.15	0.2	ENE	2	E	3	SE	10	SSE	3	ACu; StCu; CuNb; Nb	10	ACu; StCu; CuNb; Nb	10	Intermittent rain in am and pm
21	731.8	15.1	95	19.4	13.0	0.56	0.7	ENE	6	NE	3	NNW	7	WNW	7	CiSt; ASt; StCu; Nb	7-10	CiSt; ASt; StCu; Nb	7-10	Rain throughout; lightning in NE
22	734.3	17.1	68	18.8	13.3	0.18	6.9	WSW	9	WSW	10	WSW	9	NW	1	Cu; StCu; CuNb; Nb	4- 8	Cu; StCu; CuNb	6- 3	Rain at intervals; lightning in SW; dew at night
23	732.4	13.9	93	14.4	8.5	0.02	1.2	N	3	N	8	WSW	4	..	0	CiSt; Cu; Nb	10	CiSt; Cu; Nb	10	Heavy thundershowers
24	733.3	10.3	88	14.9	6.5	1.38	4.0	W	6	WSW	6	WSW	9	NW	2	Cu; CuNb; Nb	6- 8	Cu; CuNb; Nb	6- 8	Rain at intervals; dew in evening
25	737.4	12.7	95	18.9	8.0	0.16	6.7	WNW	2	N	1	SW	7	..	0	ASt; StCu	6-10	ASt; StCu	6-10	Fog or mist early; dew in evening
26	737.5	14.1	93	17.7	9.4	0.03	1.4	..	0	N	3	WNW	5	..	0	Ci; StCu; CuNb; Nb	6-10	Ci; StCu; CuNb; Nb	6- 8	Fog early; rain during day; dew in evening
27	739.3	15.6	88	18.6	10.8	0.32	5.3	W	3	NW	2	WSW	14	WSW	6	ASt; StCu; CuNb; Nb	6- 8	ASt; StCu; CuNb; Nb	6- 8	Rain during day
28	744.2	14.1	66	14.9	8.5	0.06	3.0	SW	3	SSE	1	SE	2	..	0	Ci; ACu; Cu	4- 6	Cu; StCu	4- 6	
29	745.0	10.2	81	16.5	3.9		5.8	..	0	..	0	ENE	2	..	0	StCu	6-10	Cu	4- 6	Clear at night
30	742.4	10.6	77	19.4	1.8		9.0	WNW	1	..	0	W	1	..	0	Ci; ASt	1- 3	Ci; ASt	1- 3	Dew in early am; clear at night
31	737.6	12.2	75	16.2	6.3		0.8	NW	2	NNW	3	NNW	6	WSW	3	Cu; StCu; CuNb	6- 9	StCu; Nb	6-10	Rain
SUM						3.11														
MEAN	742.1	15.2	70	21.0	8.4		5.5	1.9		2.2		5.2		2.3						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 455

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				165	146	—	—	—	—	—	—	191	212	215	194	200	202	202	178	174	174	174	194	218	220	218	219		0
2	✓	✓		237	246	258	261	260	249	274	303	360	344	335	309	277	(264)	249	248	237	231	218	212	[146	90	87	99]	241	0
3	✓	✓		[103	97	103	116	145	216]	249	293	387	373	326	262	248	240	236	231	[207	130	164	174	232]	261	287	304	224	0
4	✓	✓	✓	334	363	376	384	405	392	377	376	381	280	237	232	213	[164]	174	194	199	213	212	246	260	265	277	300	286	0
5	✓	✓	✓	316	331	334	346	336	345	348	348	335	291	248	216	193	[160]	188	193	188	174	174	203	243	246	243	248	260	0
6	✓	✓		276	299	328	322	354	400	405	406	416	377	318	274	218	200	191	191	207	187	193	177	[116	128	125	148]	261	1
7	✓	✓	✓	160	162	}171	183}	167	}178}	186	220	204	190	183	183	184	174	187	190	200	197	183	175	161	173	168	165	181	0
8	✓	✓		161	168	167	168	165	165	175	218	252	360	381	380	377	342	313	300	255	218	220	215	194	203	207	219	243	1
9	✓			243	{204	246	216	262}	229	232	246	236	218	203	188	202	(193)	162	183	183	178	188	193	200	199	173	193	207	1
10	✓			236	203	194	191	199	219	231	237	232	246	249	261	261	258	241	220	200	213	220	220	231	232	277	300	232	0
11	✓			304	280	290	{188}	191	177	178	{186	145}	160	171	{148}	149	149	149	160	161	162	165	173	204	228	229	246	191	1
12	✓	✓		261	260	257	231	206	[164	130	200]	199	199	197	187	171	171	149	139	162	178	175	180	197	226	254	264	198	0
13	✓	✓	✓	313	345	346	363	364	365	420	464	436	278	218	175	167	152	148	136	149	213	207	215	245	244	241	241	269	0
14	✓	✓	✓	246	260	280	287	313	338	364	393	390	320	262	262	257	252	248	244	232	234	228	204	188	197	204	219	268	0
15	✓	✓	✓	232	246	262	262	276	273	278	316	363	342	342	306	276	241	232	232	232	249	261	243	260	260	270	280	272	0
16	✓	✓	✓	287	307	307	284	278	274	293	313	373	349	320	271	244	(241)	232	241	258	234	226	232	231	237	[199	187]	267	0
17	✓	✓	✓	243	278	319	325	336	357	405	455	461	444	354	280	244	236	219	203	220	237	231	215	209	209	215	220	288	0
18	✓	✓	✓	246	265	274	276	291	318	323	332	364	348	286	241	231	220	218	197	228	(206)	215	219	194	200	213	246	256	0
19	✓	✓	✓	241	248	277	313	320	381	392	392	373	338	303	286	255	238	234	219	215	218	246	218	212	231	241	251	277	0
20	✓			274	293	{244}	363	342	334	331	{249	157}	336	{210	117	162	286	141}	287	291	316	{265	72	226	328	257}	222	254	2
21				{203	174	209}	—	—	—	—	—	—	207	{226	232}	222	202	203	{171	187	206}	229	219	232	229	258	274		2
22	✓	✓		274	220	193	183	171	177	178	168	158	155	154	157	158	160	161	162	165	165	173	174	202	236	245	229	184	1
23	✓			244	246	231	212	213	218	218	219	{222	141	130	114	87	(91)	183	148	136	104	130	141	190	161	148	103}	168	2
24	✓			{142	135	160	142	168	157	171	171	158	165	148	162	146	145}	173	168	173	187	203	218	215	199	200	203	171	2
25	✓	✓	✓	197	197	197	209	237	251	261	276	246	238	199	180	178	178	175	177	175	177	187	202	194	203	229	244	209	0
26	✓			[207	334	313	309	318	232	261	323	246]	206	190	{183	128}	168	168	170	174	160	174	183	193	203	{183}	173	217	1
27				194	180	164	161	167	171	175	187	188	174	174	165	160	160	162	146	146	149	164	148	149	157	162	168		1
28	✓	✓		174	177	164	171	174	174	188	203	206	203	203	200	203	199	193	187	175	188	188	191	180	194	199	199	189	0
29				215	226	219	215	203	216	234	276	309	339	—	—	—	—	—	—	—	—	—	—	—	—	—	—		0
30				—	—	—	—	—	—	—	—	—	—	—	—	—	—	219	203	207	194	209	215	232	261	280	287		0
31	✓			307	363	373	363	406	432	451	480	438	396	319	{226	96	162}	197	{174}	190	{174}	170	160	168	160	165	174	273	2
MEANS * 26 DAYS				241	251	256	256	265	270	282	300	298	281	249	223	205	203	198	200	200	198	201	194	204	212	213	218	234	
MEANS † 18 DAYS				239	248	256	260	267	279	291	315	328	302	270	244	227	213	208	205	206	203	206	205	204	211	217	226	243	
MEANS ‡ 11 DAYS				256	273	286	294	302	316	332	353	357	311	268	239	222	205	205	202	209	214	215	216	218	224	227	236	258	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 456

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				116	111	108	135	126	149	145	154	184	209	211	188	193	193	192	160	158	156	153	158	182	193	192	196		0
2	✓	✓		218	230	247	253	240	229	259	279	326	323	317	292	259	236	(233)	228	215	206	182	188	[126	62	56	69]	220	0
3	✓	✓		[71	67	79	82	108	194]	241	271	346	351	324	277	251	241	229	217	[180	103	120	121	184]	234	260	278	201	0
4	✓	✓	✓	315	338	365	372	387	387	367	365	386	292	249	237	211	[155	164]	180	179	179	188	225	234	233	249	271	272	0
5	✓	✓	✓	304	313	334	343	343	352	345	344	331	312	280	229	206	[156]	192	184	173	146	146	156	217	210	227	248	254	0
6	✓	✓		271	300	317	326	345	396	394	403	406	365	324	277	237	209	194	182	181	168	166	145	[96	98	90	105]	250	1
7	✓	✓	✓	116	126	145	151	131	108	161	204	186	189	181	176	168	158	166	155	167	151	146	149	131	145	134	134	153	0
8	✓	✓		131	136	138	136	142	145	147	172	240	330	355	365	355	333	304	295	248	212	210	200	178	171	180	193	222	1
9	✓			224	258	248	204	242	204	213	230	229	204	191	184	184	195	(165)	161	159	146	145	151	169	175	146	156	191	1
10	✓			180	171	171	171	155	176	191	215	211	212	223	251	255	260	238	212	193	204	202	195	206	215	267	292	211	0
11	✓			285	271	259	161	191	139	136	146	149	134	146	142	136	141	138	142	135	124	112	130	162	180	185	203	164	1
12	✓	✓		214	228	204	192	153	[96	96	135]	156	165	161	165	146	158	134	120	141	145	136	138	153	179	225	237	162	0
13	✓	✓	✓	260	275	290	317	347	324	376	421	389	261	195	156	154	136	136	121	141	193	192	184	204	205	204	204	237	0
14	✓	✓	✓	215	224	229	246	271	303	332	365	332	300	252	252	245	233	234	225	213	193	191	172	147	148	158	172	236	0
15	✓	✓	✓	181	204	227	249	249	261	260	294	355	334	334	294	266	227	227	228	223	227	223	212	219	219	227	231	249	0
16	✓	✓	✓	238	275	291	277	262	262	260	293	341	343	317	267	238	234	(224)	220	236	214	193	201	193	206	[168	145]	246	0
17	✓	✓	✓	193	266	301	320	326	355	393	434	436	435	343	285	245	240	214	195	215	209	203	196	193	188	200	201	274	0
18	✓	✓	✓	214	237	264	273	291	320	321	325	341	334	273	230	225	215	201	173	188	(191)	186	192	181	181	197	204	240	0
19	✓	✓	✓	214	227	268	286	312	349	369	371	361	338	315	298	259	238	214	195	169	191	213	192	178	184	201	212	256	0
20	✓			225	253	312	321	310	291	285	191	229	303	289	263	281	180	166	284	295	314	233	325	291	334	262	204	268	2
21				238	249	225	206	192	194	195	205	[175]	204	230	251	213	189	191	154	167	211	194	202	215	209	243	259		2
22	✓	✓		258	209	176	162	159	155	147	145	136	142	143	143	146	142	145	145	134	126	125	145	174	209	213	197	162	1
23	✓			215	215	193	174	181	186	188	193	156	116	105	168	134	147	(119)	121	142	184	168	154	103	134	121	142	157	2
24	✓			48	101	73	102	119	124	142	121	135	138	153	156	121	153	146	145	135	134	146	153	162	168	174	173	134	2
25	✓	✓	✓	173	178	169	162	181	219	227	236	211	215	181	161	165	159	153	158	151	134	135	134	142	158	184	212	175	0
26	✓			[178	281	266	292	300	223	259	292	222]	195	188	193	188	151	155	158	156	151	141	134	151	151	168	146	197	1
27				158	155	129	124	143	136	155	167	158	149	—	—	—	—	—	—	124	121	119	120	120	120	111	121		1
28	✓	✓		134	142	131	134	125	119	134	162	159	181	176	193	185	191	181	169	158	152	146	156	141	156	155	149	155	0
29				172	176	193	188	169	193	201	241	270	—	(262)	208	189	178	168	165	151	156	174	171	158	153	161	181		0
30				181	214	265	246	241	247	—	—	—	339	307	240	215	206	(184)	174	174	160	165	174	195	245	251	274		0
31	✓			292	335	352	346	383	402	419	453	423	374	302	246	211	191	169	179	180	184	147	122	129	126	122	125	259	2
MEANS * 26 DAYS				206	225	233	233	240	243	256	272	277	265	243	227	210	195	186	184	181	176	169	172	172	180	184	189	213	
MEANS † 18 DAYS				207	221	232	238	243	254	268	290	302	289	262	239	220	203	197	188	184	174	172	173	172	177	185	192	220	
MEANS ‡ 11 DAYS				220	242	262	272	282	295	310	332	334	305	265	235	217	196	193	185	187	184	183	183	185	189	195	203	236	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 457

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		73	75	78	58	N 65	76	70	84	105	114	106	71	76	81	92	93	83	78	75	79	73	56	60	60	78	1
2	✓	✓		56	50	43	44	41	39	39	N 24	43	49	57	68	69	68	65	74	72	67	63	53	45	49	54	68	54	1
3				66	63	66	74	67	Z	Z	Z	Z	136	Z	Z	Z	Z	Z	Z	Z	Z-	Z-	N 69	69	N 59	Z	N 1		2
4				N 85	83	55	69	67	81	77	Z	Z	53	110	87	87	81	82	78	78	67	64	69	64	53	40	47		1
5				51	51	46	49	49	97	124	168	75	65	69	61	63	N 10	−16	N 28	Z-	Z	Z	Z	Z	Z	137	153		2
6	✓	✓		135	N 96	116	N 26	110	116	110	97	N 80	102	106	104	91	102	102	92	92	85	74	60	64	74	77	81	91	1
7	✓	✓	✓	71	75	61	64	63	62	59	52	56	62	69	66	67	72	65	70	77	71	64	54	55	58	57	60	64	0
8	✓	✓	✓	60	62	51	57	58	59	75	66	61	63	68	61	60	74	76	84	86	78	76	72	77	80	83	78	69	0
9				82	89	93	93	95	Z	N 83	97	157	149	122	100	106	95	97	102	102	91	N 32	N 8	92	101	100	83		1
10	✓	✓		92	77	111	138	189	208	76	65	73	69	69	60	69	101	100	84	93	86	64	74	70	68	72	81	91	0
11				104	118	114	110	109	104	93	81	130	130	96	93	93	99	102	98	94	75	79	82	65	—	—	—		0
12				—	—	—	—	—	—	—	—	77	80	77	83	60	64	75	78	86	89	N 60	N 76	−28	−96	N 134	N 121		1
13				116	123	N 105	N 125	104	101	N 26	83	123	142	Z	91	114	101	106	100	118	98	81	87	89	78	92	62		1
14	✓	✓		64	69	81	74	63	66	68	71	120	123	115	118	112	108	123	124	118	113	108	110	106	97	116	97	98	0
15	✓			92	91	97	94	73	78	68	60	75	86	97	97	98	91	80	92	89	84	73	89	84	96	83	65	85	0
16	✓	✓	✓	91	82	74	89	81	78	60	56	55	54	59	71	76	90	96	94	96	69	68	65	64	65	64	69	74	0
17	✓	✓	✓	80	78	78	84	80	83	70	65	69	69	77	78	79	83	89	94	92	73	73	79	79	60	50	58	76	0
18	✓	✓		49	47	47	57	54	50	46	55	53	55	66	66	92	99	100	106	98	86	N 74	87	115	106	100	101	75	1
19	✓			89	97	101	99	81	78	80	77	83	66	80	84	85	83	87	91	88	75	76	81	74	75	74	69	82	0
20	✓			64	63	75	82	73	67	65	61	65	71	65	72	74	81	82	83	85	92	76	64	69	74	71	69	73	0
21	✓	✓	✓	64	65	66	71	72	71	65	62	69	76	74	84	87	95	96	100	87	74	80	64	52	51	56	63	73	0
22	✓	✓	✓	60	55	63	59	53	51	51	51	52	59	64	69	70	70	66	69	65	65	59	55	64	55	55	58	60	0
23	✓	✓	✓	58	60	53	53	54	47	50	43	51	58	64	64	66	69	65	69	67	55	59	55	59	65	77	74	60	0
24	✓	✓	✓	65	65	60	54	58	53	55	55	54	56	56	63	71	81	83	88	80	51	49	49	65	60	62	64	62	0
25	✓	✓	✓	54	49	49	52	46	50	49	46	45	47	47	57	75	74	83	84	84	87	71	69	69	64	60	52	61	0
26				47	58	60	55	56	59	54	55	60	65	79	74	57	Z	170	N 144	Z	−8	112	123	100	116	116	107		1
27	✓	✓	✓	106	102	118	121	118	128	121	115	134	127	100	97	85	80	83	92	91	91	84	81	83	79	82	87	100	0
28	✓	✓	✓	78	93	92	98	98	98	71	64	89	114	112	106	91	94	93	96	97	86	88	93	83	57	55	68	88	0
29	✓	✓	✓	57	56	56	60	56	51	51	49	57	47	55	60	65	60	55	62	66	45	51	51	50	43	45	44	54	0
30	✓	✓	✓	41	46	47	52	55	43	46	71	69	73	82	82	89	80	87	95	83	90	69	69	64	64	65	79	68	0
31																													
MEANS * 22 DAYS				73	71	74	72	75	75	66	63	71	75	77	77	79	83	85	88	86	77	72	71	71	68	69	70	74	
MEANS † 19 DAYS				71	69	71	69	74	75	65	63	70	75	76	76	78	83	85	88	86	76	71	69	70	66	68	71	74	
MEANS ‡ 13 DAYS				68	68	67	70	69	67	63	61	66	70	71	74	75	79	80	84	82	72	69	66	66	62	62	66	70	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌜ ⌟ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⌇ ⌇ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 458

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	740.0	16.4	76	19.5	9.9	0.43	6.2	W	2	WSW	1	WSW	6	SW	1	ASt; Cu; StCu	1- 3	ASt; Cu; StCu	1- 3	
2	743.5	14.4	87	21.3	7.5		5.6	..	0	N	1	NNW	4	..	0	Cu; StCu	4-10	ASt; StCu	7- 8	
3	739.6	15.6	94	17.3	11.5	0.85	0.2	N	1	N	6	E	6	N	4	StCu; CuNb; Nb	7-10	StCu; CuNb; Nb	7-10	Much rain from early hours through day and evening
4	736.0	15.9	95	20.0	14.0	3.02	2.7	..	0	NNW	4	WSW	5	SW	2	StCu; Nb	7-10	StCu; Nb	7-10	Rain in early hours and during am
5	734.2	16.5	91	19.0	10.3	0.02	1.1	N	1	N	6	NNW	12	NW	11	CiCu; ACu; CuNb	10	CiCu; ACu; CuNb	10	Fog in early am; rain at intervals; heavy showers in pm
6	737.6	16.1	79	18.0	13.2	0.85	5.9	WNW	16	WSW	7	SW	9	W	2	Cu; Nb	6- 8	Cu; Nb	6- 8	Showers in am
7	743.5	14.3	72	18.7	8.9		4.9	NNE	1	NNW	1	NW	4	N	1	Ci; ACu; ASt; Cu	3- 6	Ci; ACu; ASt; Cu	4- 6	
8	742.1	14.1	83	20.5	7.4		4.9	N	1	N	3	NW	9	NW	4	ACu; ASt; Cu	3- 6	ACu; ASt; Cu	1- 3	
9	740.2	17.6	77	20.1	12.6	0.04	6.1	NNW	4	WNW	5	WSW	14	WSW	3	Cu; StCu; Nb	3- 6	CuNb; Nb	7- 8	Light rains in am; heavy showers in pm
10	741.5	13.9	95	18.3	10.5	0.17	1.9	NW	1	NNW	2	WNW	9	NNW	2	Ci; CiCu; Cu; CuNb	6- 8	Cu; CuNb; Nb	7- 8	Light showers in pm
11	740.6	15.9	92	20.1	13.0	0.05	4.6	WNW	6	NW	2	WSW	7	NNW	1	ASt; StCu; CuNb; Nb	9-10	Cu; StCu; CuNb	7-10	Light rains in am
12	740.0	16.1	85	19.7	12.5	0.01	1.9	NNE	1	N	3	WNW	9	W	11	StCu; CuNb; Nb	4-10	StCu; CuNb; Nb	7-10	Light rains in evening
13	738.9	15.8	94	17.8	13.2	0.18	3.5	WNW	6	NNW	2	WSW	10	NW	2	ASt; ACu; Cu; CuNb	6-10	ACu; Cu; CuNb	7-10	
14	743.4	13.9	83	17.1	8.4	0.04	6.0	WNW	2	SW	2	SSW	10	SW	2	ASt; StCu; Cu	3- 8	ASt; StCu	7- 8	Light rain in late pm
15	749.2	11.5	85	15.6	6.0		5.6	W	1	..	0	ESE	5	ESE	2	ASt; StCu	6- 8	ASt; StCu	4- 8	Dew early; clear at night, with dew
16	750.2	9.1	84	17.6	2.5		8.6	..	0	..	0	NNE	5	NE	2	Ci	1- 3	Ci	4- 6	Dew early; clear at night
17	746.8	10.2	71	21.1	3.8		7.9	NNW	2	N	2	NW	6	WNW	1		0		0	Dew early; thin haze over part of sky at 9h
18	745.1	11.7	70	21.8	3.2		7.2	NW	2	N	3	WNW	11	SSE	3	StCu	1- 3	Cu; StCu; Nb	4-10	Dew in early am; light rains in pm
19	747.2	12.3	90	16.8	7.1	0.06	8.9	..	0	..	0	ESE	6	SE	4	Ci; StCu; Cu	1- 6	CiCu; StCu	4- 6	Mist early
20	748.6	10.0	77	15.3	4.7		8.7	SE	5	E	6	E	12	ESE	4	ASt	0- 1		0	Dew early
21	749.3	10.0	56	15.0	4.8		8.2	ENE	4	ENE	6	NE	12	NE	2		0		0	
22	748.3	8.3	68	13.7	5.2		0.0	NE	2	NNE	3	NNE	10	NE	4	ACu; ASt; StCu	10	CiCu; StCu	10	
23	747.4	11.4	61	18.9	2.8		2.3	..	0	N	1	NNW	5	N	1	CiCu; ACu; StCu	4- 8	CiCu; ACu; StCu	3- 1	
24	745.5	12.6	58	22.7	5.2		7.4	..	0	NNW	2	WNW	4	..	0	CiCu; ACu; ASt	1- 3	CiCu; ACu; ASt	1- 3	
25	743.8	13.3	55	23.8	8.6		5.1	..	0	N	1	WNW	7	N	2	ACu; ASt; StCu	10- 3	ACu; ASt; StCu	4- 6	
26	738.1	13.9	76	22.4	5.5		4.0	NW	1	N	4	WSW	13	WNW	3	CiCu; ASt; Cu; CuNb	1-10	Cu; CuNb; Nb	10	Dew early; light rain in pm
27	741.3	15.0	89	18.3	11.0	0.26	6.3	W	3	W	2	SW	9	..	0	Cu; StCu; CuNb	3- 6	Cu; StCu	4- 6	
28	745.9	13.9	75	17.1	8.6	0.01	4.8	..	0	..	0	SW	3	SW	1	ASt; Cu; StCu	3- 6	ASt; Cu; StCu	3- 6	
29	745.4	11.3	89	16.8	4.0		3.0	..	0	..	0	NW	2	..	0	ACu; ASt	3- 7	ACu; ASt	3- 6	Dew early
30	740.4	13.9	83	18.6	7.0		4.6	..	0	N	1	WSW	10	..	0	ACu; ASt	3- 7	ACu; ASt; CuNb	6- 8	Rain in evening
31																				
SUM						5.99														
MEAN	743.1	13.5	80	18.8	8.1		4.9		2.1		2.5		7.8		2.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 459

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		193	193	199	188	175	200	207	204	197	177	175	178	170	170	165	170	174	177	177	186	199	219	222	231	189	1
2	✓	✓		248	274	348	390	402	390	360	358	345	332	299	249	231	215	209	191	197	194	193	203	226	264	264	270	277	1
3				274	278	274	248	257	190	—	—	—	202	187	102	122	87	106	119	74	45	112	187	183	170	142	148		2
4	✓			178	204	222	218	234	188	162	94	128	232	213	218	197	178	173	178	173	183	188	207	207	(229	251)	273	197	1
5				277	293	339	348	336	[220	174	130]	241	244	206	187	188	174	168	171	141	84	116	94	158	116	117	116		2
6	✓	✓		116	125	128	133	142	149	161	161	155	160	161	157	155	(155)	160	162	160	164	177	194	187	200	206	218	162	1
7	✓	✓	✓	232	223	251	274	287	300	319	334	328	281	234	219	203	199	197	202	203	212	215	[232	238]	245	251	262	248	0
8	✓	✓	✓	267	281	304	290	267	246	196	209	246	236	200	191	193	183	177	165	164	187	197	202	193	202	202	194	216	0
9	✓			194	199	199	193	194	183	174	173	155	132	135	142	148	155	161	160	158	161	145	146	155	155	155	174	164	1
10	✓	✓		177	186	[158	133	113	99]	232	248	237	237	212	188	168	178	173	160	164	171	164	174	175	187	199	203	181	0
11				177	220	162	173	184	188	257	261	188	—	—	—	—	—	—	—	—	—	—	—	257	264	249		0
12				249	228	236	245	257	261	257	261	258	238	218	207	193	187	187	177	174	187	188	197	160	145	173	164		1
13	✓			187	186	175	183	187	188	167	203	200	199	132	162	164	(161	161)	170	170	177	186	190	203	203	212	210	182	1
14	✓	✓		213	209	194	204	218	216	203	204	202	175	168	171	173	174	186	183	184	186	188	186	196	194	194	203	193	0
15				209	215	218	244	291	294	307	304	278	228	202	200	207	203	203	200	203	216	218	203	197	206	228	264		0
16	✓	✓	✓	246	258	278	271	286	293	309	322	332	323	293	251	218	203	206	215	219	[212	207	202	175	229]	236	241	251	0
17	✓	✓	✓	246	252	252	255	264	270	265	280	293	294	262	245	238	228	204	206	206	212	216	218	234	261	265	276	248	0
18	✓	✓		290	313	303	322	342	326	336	341	377	348	319	302	244	203	188	188	191	190	168	193	178	174	174	178	258	1
19				186	187	187	194	222	232	226	226	(241)	274	232	202	190	168	158	164	160	173	—	—	—	—	—	—		0
20				—	—	—	—	—	—	—	—	[299	244]	290	261	238	(202)	194	190	202	[164]	181	188	203	226	261	278		0
21	✓	✓	✓	287	293	304	303	310	304	286	284	286	260	246	218	200	186	187	194	202	175	188	197	220	236	261	270	246	0
22	✓	✓	✓	277	290	276	289	290	284	280	265	270	254	241	219	232	228	223	231	246	218	243	246	260	265	276	280	258	0
23	✓	✓	✓	274	280	261	262	271	291	289	304	300	265	248	228	203	199	203	215	216	216	228	246	234	220	218	218	245	0
24	✓	✓	✓	236	249	260	270	294	322	334	334	341	332	328	294	265	238	220	222	232	246	248	257	246	241	260	274	273	0
25	✓	✓	✓	303	323	328	334	344	334	348	361	363	363	358	309	234	215	216	219	215	207	204	215	246	245	248	260	283	0
26	✓			[238]	261	290	328	351	363	376	363	329	287	[228	161	130]	117	160	151	87	135	151	151	160	165	173	187	223	1
27	✓	✓	✓	177	175	177	178	175	173	173	180	191	191	175	174	173	(168)	173	178	174	183	188	199	202	215	220	220	185	0
28	✓	✓	✓	218	219	231	220	223	238	252	278	270	218	203	194	193	204	184	187	188	199	194	200	220	257	246	246	220	0
29	✓	✓	✓	265	276	290	289	274	276	262	262	290	307	284	246	223	220	220	218	226	246	245	252	278	313	313	320	266	0
30	✓	✓	✓	307	273	313	319	348	392	400	246	246	220	209	(194)	193	188	188	178	174	187	194	199	223	206	248	212	244	0
31																													
MEANS * 23 DAYS				233	241	250	254	260	262	265	261	264	253	231	213	198	190	188	189	188	193	196	204	211	223	230	236	226	
MEANS † 19 DAYS				241	247	256	259	264	269	274	272	277	262	243	222	206	198	194	194	197	199	202	211	217	230	237	241	234	
MEANS ‡ 13 DAYS				257	261	271	273	279	286	286	281	289	273	252	229	213	205	200	202	205	208	213	220	228	241	250	252	245	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 460

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		151	148	145	154	145	159	165	150	135	141	144	151	148	151	146	143	136	128	134	144	151	175	177	202	151	1
2	✓	✓		201	229	279	320	335	328	318	320	287	295	265	234	218	207	189	166	170	155	155	169	191	210	216	209	236	1
3				212	221	220	209	205	185	—	—	176	159	169	—	—	—	—	—	—	204	233	151	147	147	134	160		2
4	✓			133	132	166	155	157	146	132	147	179	188	167	166	162	148	144	144	133	129	133	145	157	178	198	236	157	1
5				240	248	264	296	282	179	158	122	210	215	188	167	163	169	184	167	193	221	199	—	177	142	112	113		2
6	✓	✓		105	120	113	133	128	123	124	127	132	132	121	133	134	145	(136)	133	126	123	123	151	148	144	155	158	132	1
7	✓	✓	✓	180	178	185	178	188	221	253	268	285	252	199	194	187	180	177	173	165	163	166	173	173	205	219	231	200	0
8	✓	✓	✓	231	223	254	252	226	209	166	167	202	207	188	187	187	179	169	157	151	148	145	158	162	162	166	166	186	0
9	✓			165	159	154	151	150	135	155	142	127	111	116	122	124	131	135	128	129	116	128	144	116	110	105	111	132	1
10	✓	✓		122	152	111	79	154	72	186	194	199	205	180	165	151	151	146	141	136	132	(133	133	133)	134	152	164	147	0
11				148	136	136	140	144	157	166	159	142	154	165	—	—	—	—	—	—	—	—	—	—	209	198	—		0
12				—	—	—	—	—	—	—	—	220	209	198	188	181	167	162	165	158	157	164	158	185	187	144	141		1
13	✓			141	136	134	121	128	132	158	148	133	145	143	127	132	133	(134	133)	121	122	133	136	151	152	153	156	138	1
14	✓	✓		166	153	143	145	155	151	155	143	133	136	136	143	155	147	151	144	135	111	107	107	126	124	112	117	137	0
15				151	144	152	—	—	—	—	—	—	176	169	168	176	174	180	166	169	165	158	121	134	135	155	212		0
16	✓	✓	✓	176	191	221	196	202	224	256	259	274	278	265	229	198	177	174	169	173	168	176	173	146	158	212	209	204	0
17	✓	✓	✓	199	212	223	217	231	220	229	240	245	266	253	231	225	205	188	193	186	173	170	178	186	213	241	241	215	0
18	✓	✓		265	294	285	294	320	306	332	317	332	311	294	285	230	199	189	169	164	152	135	151	121	121	123	125	230	1
19				121	110	112	131	166	165	162	173	151	214	201	186	168	155	145	147	144	143	133	136	154	153	159	177		0
20				188	188	192	199	212	255	264	309	273	236	272	242	224	210	186	177	179	144	146	158	182	203	231	240		0
21	✓	✓	✓	244	252	259	252	255	253	244	253	261	241	231	199	186	165	168	166	169	155	156	168	186	203	217	221	213	0
22	✓	✓	✓	225	238	220	227	233	231	226	210	223	216	210	199	199	200	199	206	210	181	202	199	206	207	226	230	213	0
23	✓	✓	✓	230	224	240	236	242	(242	241	240	239)	239	230	212	194	186	180	188	178	184	187	200	201	198	190	192	212	0
24	✓	✓	✓	214	221	239	252	266	295	307	309	310	307	307	284	257	227	219	211	202	199	215	232	216	221	221	242	249	0
25	✓	✓	✓	274	295	306	294	298	297	314	323	337	339	338	296	245	226	221	218	201	186	177	181	188	205	220	231	259	0
26	✓			200	229	266	296	313	334	344	331	305	272	218	158	158	136	163	124	131	202	157	131	124	123	133	144	208	1
27	✓	✓	✓	151	144	142	121	121	116	115	124	144	145	148	151	150	152	(153)	152	141	131	132	136	145	162	166	155	142	0
28	✓	✓	✓	166	153	166	162	164	169	187	200	178	167	159	158	165	167	155	147	145	121	132	137	154	188	187	181	163	0
29	✓	✓	✓	205	220	239	242	253	242	230	243	243	273	246	227	202	207	199	191	176	189	181	203	231	254	259	270	226	0
30	✓	✓	✓	265	227	252	277	310	363	344	(231)	201	199	189	180	173	166	167	154	141	147	148	144	158	157	180	162	206	0
31																													
MEANS * 23 DAYS				192	197	206	207	216	216	225	221	222	220	206	193	182	173	170	163	157	153	153	161	164	174	184	189	189	
MEANS † 19 DAYS				198	204	212	212	222	222	231	227	229	229	216	203	190	181	175	170	163	155	157	165	170	181	192	195	196	
MEANS ‡ 13 DAYS				212	214	227	224	230	237	239	236	242	241	228	211	198	187	182	179	172	165	168	176	181	195	208	210	207	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 461

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		54	54	⌈ 59	72	153	138	45	57	100	74⌋	51	63	45	65	59	69	63	64	75	49	49	55	65	74	69	0
2				69	60	63	65	70	69	59	56	68	65	75	72	73	83	77	81	70	76	65	71	82	-81	Z-	-221		2
3				Z-	Z-	Z-	Z-	N 66	N 96	140	N103	112	130	N 88	N 77	94	90	95	85	83	86	89	91	96	101	88	106		2
4	✓	✓	✓	102	114	106	112	94	88	82	71	77	84	83	89	82	86	83	94	88	88	77	74	74	71	83	63	86	0
5				60	62	83	56	66	66	57	72	75	53	78	83	70	77	86	81	83	77	61	69	64	⌈ 87	87⌋	—		0
6				—	—	67	68	—	—	—	—	62	95	81	81	83	94	106	100	104	80	70	71	73	78	69	73		0
7	✓	✓	✓	79	87	92	109	120	106	88	83	74	65	70	65	72	82	80	91	88	88	[66	66]	(65	64)	63	59	80	0
8	✓	✓	✓	81	87	86	94	88	74	75	78	76	99	97	96	98	93	93	95	89	83	78	74	54	69	64	65	83	0
9				71	77	80	77	76	77	73	73	73	68	71	72	64	Z	N 19	-27	-28	85	93	77	87	100	97	102		1
10				72	⌈ 95	98	111⌋	80	70	63	55	74	74	86	93	N 59	N 71	—	—	—	—	—	—	—	88	70	78		1
11	✓	✓	✓	55	53	55	68	55	58	68	55	60	80	55	75	81	103	106	111	116	107	114	108	106	98	89	91	82	0
12	✓	✓	✓	97	88	100	111	99	82	85	81	87	91	82	79	84	87	95	95	97	81	74	87	80	81	82	71	87	0
13	✓	✓	✓	69	72	69	68	68	65	52	47	45	50	47	47	52	65	77	86	76	64	59	57	59	65	63	61	62	0
14	✓	✓	✓	53	49	53	53	53	61	64	71	71	65	67	70	81	74	81	72	78	73	70	76	88	96	94	86	71	0
15	✓	✓	✓	90	72	74	73	85	79	74	71	66	63	68	72	73	73	78	70	74	55	54	53	60	65	65	66	70	0
16	✓	✓	✓	70	58	60	63	59	61	52	50	54	60	66	69	67	73	89	86	83	65	69	74	74	60	64	59	66	0
17	✓	✓	✓	61	66	65	65	60	69	59	61	59	56	56	66	74	88	92	99	95	83	86	74	77	77	80	67	72	0
18	✓	✓		71	⌈ 92	210	142⌋	104	88	63	81	121	88	70	77	74	78	72	79	86	83	95	86	89	82	80	83	91	0
19	✓	✓	✓	99	100	115	109	102	95	91	80	70	60	65	66	69	82	84	87	83	60	60	68	70	78	83	97	82	0
20	✓	✓	✓	91	81	88	88	83	72	69	58	56	53	52	61	92	68	82	83	74	62	70	74	63	62	60	61	71	0
21	✓			66	72	58	52	61	57	61	69	58	55	53	55	62	72	77	78	79	73	69	84	91	94	95	83	70	0
22	✓	✓		80	84	86	100	100	97	⌈112	156	116	45	68⌋	69	73	76	86	86	83	80	78	77	70	68	76	80	85	0
23	✓	✓	✓	82	82	80	77	71	57	47	49	69	77	75	86	77	87	86	93	97	82	69	66	63	65	61	72	74	0
24	✓	✓	✓	72	76	84	81	75	65	72	71	79	82	88	92	84	81	82	91	99	103	94	89	83	71	59	72	81	0
25				83	83	84	52	51	Z	Z	N 2	100	138	71	88	N 80	63	77	95	109	106	104	89	104	81	77	78		1
26				76	82	88	77	82	96	60	63	81	73	69	76	87	N 61	97	109	N 2	111	95	107	Z	Z	83	104		1
27	✓	✓	✓	110	112	114	94	74	60	61	88	91	78	81	83	91	89	90	96	96	93	91	83	88	86	82	78	88	0
28	✓	✓	✓	84	95	94	91	79	81	73	78	72	71	71	68	68	78	77	84	82	73	69	65	61	91	94	98	79	0
29	✓	✓	✓	89	78	77	83	78	77	79	70	74	64	60	64	73	87	84	78	89	67	60	76	76	85	83	78	76	0
30	✓	✓	✓	75	81	82	74	68	66	59	62	57	61	75	75	77	78	76	80	77	68	66	61	58	(54	55)	59	68	0
31	✓			55	57	64	60	57	53	55	53	48	55	50	54	65	77	71	61	64	52	54	59	61	70	71	69	60	0
MEANS * 23 DAYS				78	79	86	84	82	76	69	71	73	69	67	71	75	80	83	85	85	76	74	73	72	74	74	74	76	
MEANS † 21 DAYS				79	80	88	87	84	78	70	72	75	70	69	73	76	81	83	87	86	77	75	73	72	73	74	73	77	
MEANS ‡ 18 DAYS				81	81	83	84	78	73	69	68	69	70	70	74	78	82	85	88	88	78	74	74	72	74	74	72	77	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VAL

TABLE 462

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	743.4	11.4	97	18.4	6.5	0.03	2.9	NNW	1	NNW	2	NNW	4	..	0	ACu; Cu	3- 6	ACu; Cu	3- 6	Fog early, until 9h
2	741.8	11.1	92	20.6	8.0	0.02	3.9	NNW	1	N	2	NW	13	NW	7	CiCu; ACu; ASt; StCu	8- 6	ASt; StCu; Nb	7- 8	Rain in evening
3	737.4	13.9	85	16.3	12.5	0.57	3.7	WNW	9	SW	2	SSW	14	SW	3	ASt; Cu; CuNb; Nb	7- 8	ASt; Cu; CuNb; Nb	6- 1	Rain during day, and in early hours
4	745.1	10.0	82	14.9	2.0	0.03	3.5	SW	2	..	0	SW	5	SW	1	ASt	1- 3	ASt	4- 8	Dew early
5	747.3	10.7	98	15.7	6.2	0.03	1.4	..	0	NW	1	SSE	4	SE	1	StCu; Nb	10- 7	ACu; ASt; StCu	7- 8	Rain in am
6	748.6	11.6	90	17.1	5.5	0.02	8.4	..	0	..	0	SE	6	SSE	1	Ci; ASt; StCu	1- 3	Cu; FrCu	3- 6	Dew early
7	751.6	11.6	83	16.7	4.7		8.9	S	1	E	1	NE	10	NNE	1	FrCu	1- 6	FrCu	6- 1	Dew early
8	747.8	9.9	73	18.3	3.0		6.9	NNW	2	NNW	2	NNW	12	WNW	1	Ci; CiSt; CiCu	1- 3	Ci; CiCu; ACu	1- 3	Dew early
9	742.6	15.4	71	19.8	6.4		2.1	NNW	4	NNW	8	WSW	7	WNW	2	Ci; StCu; Cu	6- 9	ACu; StCu; Nb	6- 9	Intermittent rain in pm
10	744.4	12.5	88	16.0	7.4	0.23	2.9	..	0	NW	1	SW	5	..	0	ASt; StCu; Nb	10- 7	Cu; StCu; Nb	6- 4	Light rain in am
11	745.9	11.7	88	16.9	4.5	0.03	4.7	..	0	..	0	S	9	S	2	ACu; Cu; StCu; Nb	6- 8	Cu; StCu; Nb	6- 8	Light rains
12	750.8	8.3	83	12.5	3.3		8.9	S	1	ESE	1	ESE	8	SE	2		0	ACu	1- 3	
13	752.0	7.7	74	13.4	1.2		9.0	SSE	2	ESE	4	E	10	SE	3		0	ACu	1- 3	Dew early; clear at night
14	749.2	9.6	69	15.9	0.9		8.9	E	3	..	0	NE	1	..	0	ACu; Cu	1- 3	ACu; Cu	1- 3	Dew early; clear at night
15	747.7	8.4	68	15.1	0.5		8.8	S	1	..	0	ENE	3	..	0	Ci; ACu	0- 1	ACu	0- 1	Dew early
16	744.9	8.9	65	16.9	-0.7		9.1	..	0	..	0	N	3	..	0	Ci	1- 3	Ci	1- 3	Frost early
17	741.7	10.6	62	19.1	1.8		7.7	..	0	S	1	WSW	2	SSW	4	Ci; CiSt; ACu; ASt	6- 3	Ci; CiSt	3- 1	Dew early and in evening
18	743.1	9.4	95	16.4	3.2	0.02	3.6	..	0	..	0	S	4	S	2	StCu; CuNb	10- 7	Cu; StCu	6- 1	Dew early; light rain at 10h
19	745.0	8.3	83	14.3	1.5		8.9	S	2	SE	2	ESE	4	SSE	2	Ci; ACu	1- 3	Ci; ACu	1- 3	Dew early
20	743.9	9.4	66	16.2	0.5		8.8	SSE	2	..	0	V	1	S	2	ASt	1- 3	ASt	1- 3	Frost
21	745.6	10.3	74	16.9	0.5		6.1	SSW	2	..	0	ESE	3	S	2	Cu; StCu; ASt	10- 6	ASt; ACu	6- 1	Dew in evening
22	749.3	7.2	98	15.9	3.8		6.7	SE	3	ESE	2	E	3	SE	3	Cu; StCu	7- 8	Cu; FrCu	6- 1	Fog early, until 10h; dew in evening
23	747.9	11.1	73	17.3	3.1		9.2	SSE	1	..	0	NE	9	..	0	ASt	1- 3		0	Dew early
24	740.0	14.4	57	21.3	3.9		9.3	NNE	5	NNE	7	NW	13	NW	10		0	StCu	1- 3	
25	734.6	15.1	79	16.7	14.7	0.51	3.2	NW	15	W	12	SW	17	SW	2	StCu; CuNb; Nb	10	ACu; Cu; CuNb	9- 6	Rain in am, from early hours
26	741.3	10.2	89	15.2	4.8	0.03	3.2	W	1	NW	2	WNW	11	WNW	6	Cu; StCu; CuNb	10	CuNb; Nb	7-10	Showers and rains in am and pm
27	743.9	12.8	68	16.1	7.2	0.21	8.5	SW	4	SW	2	S	10	SSW	1	Cu; StCu; CuNb	4-10	ACu; StCu	3- 6	
28	748.9	9.3	75	13.7	3.0		9.1	..	0	ESE	1	ENE	2	SE	2	ASt; ACu; StCu	1- 6	ACu; ASt; StCu	4- 6	Dew early
29	748.4	8.9	80	16.7	1.2		9.2	S	2	..	0	NNE	2	ESE	3	Cu; StCu	1- 3	Cu; StCu	4- 6	Dew early
30	749.1	10.4	72	17.2	3.1		7.0	SSE	2	SE	1	E	3	SE	4	Ci; CiCu	1- 3	Ci; CiCu	4- 6	Dew early
31	750.6	11.7	58	19.4	3.1		9.2	SE	2	SE	1	NE	3	SE	4	CiSt; ASt	1- 3	ASt	1- 3	
SUM						1.73														
MEAN	745.6	10.7	78	16.7	4.1		6.6		2.2		1.8		6.5		2.3					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 463

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		259	255	[259	241	140	155	310	290	240	261]	292	235	213	224	212	202	207	197	206	}231	240	228	226	230}	231	0
2	✓			254	248	278	282	276	292	312	324	300	285	272	243	197	178	178	179	172	178	165	173	173	}133	83	114}	220	2
3	✓			}93	117	85	107}	141	{141}	159	157	159	168	(145)	{151}	162	166	172	173	166	169	169	178	182	185	192	188	155	2
4	✓	✓	✓	183	189	210	210	235	237	237	272	258	220	210	195	183	(182)	182	179	179	193	202	209	213	221	226	255	212	0
5	✓			}259	237	195}	296	282	279	285	271	254	257	217	212	206	195	188	185	190	189	193	183	193	188	183	206	223	0
6	✓			209	243	251	265	274	288	266	274	302	(254)	217	197	193	182	166	168	159	182	196	214	217	212	240	240	225	0
7	✓	✓	✓	216	207	200	183	172	189	212	238	292	290	268	268	251	238	224	212	212	[199	209	209	244	234	268]	269	229	0
8	✓	✓	✓	226	210	214	223	214	230	243	254	257	245	226	209	207	206	203	207	203	210	209	223	245	254	254	251	226	0
9	✓			261	251	255	257	268	262	264	262	252	231	203	186	179	}155	192	178	157}	169	180	183	188	178	186	179	212	1
10	✓			212	[188	197	164]	237	251	264	314	302	250	210	199	178	178	175	178	183	192	188	189	199	221	243	251	215	1
11	✓	✓	✓	282	313	310	282	305	305	274	(321	324)	258	197	188	168	168	151	164	172	168	169	178	189	195	197	200	228	0
12	✓	✓	✓	197	209	183	185	199	200	212	212	214	197	196	196	183	182	195	193	197	206	207	193	212	212	209	216	200	0
13	✓	✓	✓	235	230	238	248	278	296	307	320	333	316	262	243	235	212	182	183	240	265	258	265	278	272	279	295	261	0
14	✓	✓	✓	324	321	331	347	337	310	295	285	312	[282]	278	262	226	212	212	221	224	226	230	220	212	217	217	234	264	0
15	✓	✓	✓	241	282	283	269	255	266	268	278	(309)	334	307	274	265	248	250	251	252	257	254	247	257	264	279	289	270	0
16	✓	✓	✓	300	324	331	331	340	351	361	381	413	361	288	271	268	251	238	234	240	235	[186]	210	238	261	268	296	291	0
17	✓	✓	✓	305	317	337	338	352	337	364	362	398	402	[329]	314	272	220	210	203	197	202	203	212	223	220	228	243	283	0
18	✓	✓		255	[192	124	154]	}151	210	226	238	164	202}	221	200	178	(173)	189	188	180	166	152	168	161	159	159	155	182	0
19	✓	✓	✓	161	157	151	164	169	182	197	212	262	288	235	226	214	199	183	182	185	206	199	192	197	189	196	183	197	0
20	✓	✓	✓	195	197	203	212	223	226	237	257	296	[276]	276	259	237	230	221	226	212	197	193	188	203}	213	227	233	227	0
21				—	—	—	—	—	—	—	—	314	290	265	245	220	203	192	193	192	196	183	178	197	197	183	217		0
22	✓	✓		221	213	213	226	217	227	[169	154	217	247	276]	290	279	271	262	254	240	227	223	243	255	254	238	228	235	0
23	✓	✓	✓	216	216	240	259	290	312	350	344	326	252	234	221	209	199	206	202	203	209	[207	185	216	214]	266	285	244	0
24	✓	✓	✓	285	268	254	254	266	274	271	266	258	231	209	203	212	212	212	203	188	192	192	196	209	214	212	207	229	0
25				212	209	197	—	—	—	—	—	144	143	138	138	140	(113)	138	158	159	157	179	192	180	186	200	197		1
26	✓			193	192	197	214	226	221	261	279	227	202	213	196	185	173	185	183	}164}	179	182	175	}171	135}	159	155	194	1
27	✓	✓	✓	158	164	168	178	178	199	189	169	182	183	178	173	169	172	173	172	173	173	180	180	192	196	189	189	178	0
28	✓	✓	✓	186	178	183	193	199	209	214	213	235	213	197	195	206	193	200	202	199	212	213	212	226	209	197	202	204	0
29	✓	✓	✓	207	220	237	234	251	254	268	286	[279	290]	295	272	245	234	228	226	234	216	197	214	230	237	234	230	242	0
30	✓	✓	✓	237	243	257	258	269	292	299	299	341	337	296	265	252	244	241	234	237	252	245	244	250	243	248	258	264	0
31				272	288	285	290	299	298	306	321	336	330	307	283	254	245	245	254	240	248	238	231	224	217	221	237		0
MEANS * 28 DAYS				228	228	228	235	241	250	261	269	275	262	241	227	213	203	201	199	199	202	200	204	215	213	218	224	226	
MEANS † 21 DAYS				233	234	235	238	240	251	262	269	281	271	251	236	222	213	208	207	208	210	206	210	223	224	229	236	233	
MEANS ‡ 18 DAYS				231	236	241	243	252	259	267	276	294	276	249	235	222	211	206	205	208	212	208	210	224	226	233	241	236	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 464

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		196	216	⌈217	189	100	134	295	287⌋	(242	253)	268	224	192	194	191	181	176	166	148	≷181	186	206	199	180≶	201	0
2	✓			205	220	232	236	240	255	290	300	270	260	254	230	200	181	182	177	169	167	162	164	155≶	166	173	189≶	212	2
3	✓		≷199	191	203	214≶	124	≷118≶	109	≷124≶	112	124	(135)	135	144	147	158	148	134	135	131	124	131	118	132	113	142	2
4	✓	✓	✓	111	116	135	131	⌈141	157	150	168⌋	204	177	175	167	166	158	(156)	145	137	124	137	146	155	169	173	209	154	0
5	✓		≷207	188	148≶	239	240	216	242	229	205	207	181	178	165	159	145	141	134	133	144	144	151	⌈128	121	133⌋	174	0
6	✓		⌈154⌋	203	197	219	217	234	210	245	214	⌈156⌋	184	173	166	158	148	140	140	133	153	144	162	165	181	179	178	0
7	✓	✓	✓	168	158	154	131	118	137	146	184	218	246	238	244	227	215	203	189	177	⌈158	166	162	199	168	215	227⌋	185	0
8	✓	✓	✓	186	177	188	177	191	207	207	211	225	224	215	194	196	194	190	188	187	185	176	190	218	214	225	224	200	0
9	✓			230	230	225	227	236	229	236	238	234	213	191	178	166	≷180	187	187	162≶	136	123	137	144	126	128	121	186	1
10	✓			155	⌈135	133	113⌋	189	203	215	263	252	202	177	177	158	154	146	151	144	120	134	124	124	159	198	187	167	1
11	✓	✓	✓	224	254	287	242	273	274	≷221≶	(240	256)	212	174	159	141	141	135	(136)	124	124	102	100	121	121	124	133	180	0
12	✓	✓	✓	135	143	134	126	131	128	128	158	177	175	180	184	176	180	186	179	173	170	155	137	160	146	147	158	157	0
13	✓	✓	✓	184	170	186	187	203	231	281	297	317	286	246	243	225	202	173	169	216	233	210	215	227	218	234	261	226	0
14	✓	✓	✓	284	282	297	285	275	252	240	238	256	⌈231⌋	255	246	210	197	184	188	191	180	191	162	164	165	174	165	221	0
15	✓	✓	✓	197	244	245	243	214	220	230	236	260	285	269	242	236	229	219	228	214	221	213	211	206	207	224	245	231	0
16	✓	✓	✓	253	281	292	296	310	314	327	352	360	318	267	256	256	236	211	202	188	192	⌈140⌋	163	190	230	230	236	254	0
17	✓	✓	✓	250	256	292	294	310	285	319	318	338	352	⌈302⌋	294	261	216	199	188	176	156	153	174	179	184	173	197	244	0
18	✓	✓		188	⌈166	106	140⌋	≷124	178	196	168	113	166≶	187	176	165	167	(163)	163	148	137	120	124	123	124	123	133	150	0
19	✓	✓	✓	131	122	112	117	124	136	154	176	231	272	218	211	199	190	167	166	173	181	154	154	151	152	136	144	165	0
20	✓	✓	✓	151	174	175	185	188	205	216	228	253	⌈236⌋	244	233	199	202	184	188	188	185	166	164	186	190	202	192	197	0
21				188	188	203	220	228	230	243	224	256	255	240	219	205	196	184	175	173	144	155	142	147	141	135	173		0
22	✓	✓		181	162	164	158	151	168	⌈140	135	198	245	265⌋	267	259	254	236	227	212	188	177	197	212	200	185	191	199	0
23	✓	✓	✓	169	184	189	219	242	273	335	329	274	232	218	209	198	188	194	187	170	168	⌈173	154	173	172⌋	227	244	213	0
24	✓	✓	✓	240	220	213	207	218	241	221	221	236	210	189	199	206	213	209	200	180	178	180	181	186	189	197	192	205	0
25				191	189	186	184	194	≷279	224	168	131≶	126	132	133	131	128	(128)	140	133	126	120	127	126	126	148	153		1
26	✓			133	137	153	175	178	170	210	224	219	186	187	186	178	178	174	169	≷162≶	151	151	150	≷113	165≶	134	123	167	1
27	✓	✓	✓	120	121	123	109	112	121	131	132	143	155	155	151	154	151	147	144	142	140	124	120	116	134	136	133	134	0
28	✓	✓	✓	121	112	133	133	143	143	165	164	193	192	179	181	190	180	179	170	176	173	148	153	170	147	151	147	160	0
29	✓	✓	✓	163	186	196	190	212	218	218	⌈231	224	256⌋	267	257	234	212	199	191	184	182	179	⌈166⌋	181	173	178	186	203	0
30	✓	✓	✓	198	197	202	219	243	252	253	270	317	307	278	256	245	227	224	220	224	213	200	202	189	220	225	227	234	0
31				—	—	—	—	—	—	—	—	313	310	299	281	255	234	231	230	219	224	197	189	186	184	184	198		0
MEANS * 28 DAYS				183	187	190	193	195	204	217	227	234	228	218	209	197	189	182	177	171	165	158	159	167	170	177	181	191	
MEANS † 21 DAYS				183	188	192	189	192	204	218	226	240	240	228	219	206	197	188	183	179	174	162	165	176	178	185	192	196	
MEANS ‡ 18 DAYS				182	189	197	194	203	211	219	231	249	243	226	218	207	196	187	182	179	176	165	164	176	178	187	196	198	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 465

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	60	46	38	44	34	35	36	55	53	57	60	60	62	63	64	65	70	61	64	66	68	70	65	60	56	0
2	✓	✓	✓	59	54	55	60	52	60	61	54	56	60	63	63	69	71	73	76	74	65	51	47	43	50	45	39	58	0
3				41	41	44	48	49	51	49	47	51	56	55	67	65	-1	75	N 63	Z	59	N 34	-119	Z	Z	Z	46		2
4				Z	55	41	35	45	52	49	50	63	83	77	85	74	77	83	89	102	104	95	95	85	72	73	81		1
5	✓	✓	✓	72	84	59	54	47	45	41	46	46	60	64	72	81	80	92	85	89	91	92	98	66	65	65	61	69	0
6				83	—	—	—	—	98	64	42	71	60	61	58	50	64	70	68	77	73	69	77	79	65	68	65		0
7	✓	✓	✓	61	58	65	66	72	78	65	65	64	58	59	68	61	67	75	77	73	69	65	58	61	65	65	78	66	0
8	✓	✓	✓	68	65	75	77	82	82	72	65	57	66	65	68	69	85	87	91	91	110	75	74	79	78	73	67	76	0
9	✓	✓	✓	58	59	65	69	73	65	64	54	56	58	68	77	80	84	89	92	87	80	68	67	60	58	59	55	69	0
10	✓	✓	✓	53	58	57	57	57	55	55	55	58	61	65	68	73	73	76	80	81	75	69	68	71	66	61	59	65	0
11	✓	✓	✓	51	55	56	58	62	60	57	53	50	44	59	61	65	71	75	78	72	66	49	51	57	49	54	53	59	0
12	✓	✓	✓	50	55	55	47	47	45	41	45	50	59	66	69	66	74	82	72	67	48	70	68	69	61	67	66	60	0
13				62	53	53	51	—	—	—	42	53	71	72	66	63	70	73	89	84	88	61	74	73	56	47	48		0
14	✓	✓	✓	51	52	54	50	63	44	70	48	77	68	55	55	48	55	47	50	56	59	61	65	56	55	53	59	56	0
15	✓	✓	✓	60	70	74	70	64	58	53	52	52	55	64	70	82	77	79	88	89	78	65	66	70	67	58	53	67	0
16	✓	✓	✓	47	59	60	65	61	59	49	41	59	64	65	70	74	71	80	84	84	65	51	52	55	53	48	43	61	0
17				43	45	51	60	62	54	45	41	45	57	57	71	75	91	97	101	Z	Z	Z	N 73	N 76	87	97	101		2
18				104	101	93	99	93	101	86	83	83	96	110	N101	Z	Z	109	Z	93	89	83	78	79	82	87	80		1
19	✓	✓	✓	99	108	98	112	116	105	120	116	110	72	75	87	85	88	84	86	80	72	59	64	73	76	71	73	89	0
20				74	88	93	106	144	145	107	109	74	56	62	73	60	66	75	72	74	64	55	52	54	62	56	—		0
21				—	—	—	—	51	51	47	52	51	52	55	61	60	75	68	75	78	67	60	56	60	64	67	66		0
22	✓	✓	✓	68	59	69	70	83	78	77	85	85	87	87	75	71	73	86	92	101	92	69	65	73	75	69	68	77	0
23	✓	✓		60	78	78	83	97	95	68	79	78	77	74	77	97	80	82	67	83	69	72	91	N 17	N 43	74	53	74	1
24				78	88	96	65	96	63	40	78	57	73	74	75	77	71	52	Z	N 33	116	111	Z	N 97	111	116	116		1
25				144	131	125	N 76	74	77	84	86	123	158	Z	Z	Z	N 15	112	Z	Z	150	128	111	Z	89	99	98		2
26				109	111	115	118	133	137	N 63	106	N 92	Z	N 96	-64	131	Z	88	95	92	92	Z	Z	N 83	N 35	89	91		2
27	✓	✓	✓	91	97	102	122	117	120	88	85	88	95	97	89	89	86	103	104	111	93	88	86	106	94	95	92	97	0
28	✓	✓	✓	87	109	130	118	108	105	83	84	93	103	97	95	111	118	144	142	132	132	100	98	97	84	78	98	106	0
29				100	114	127	138	148	139	106	Z	-50	N104	Z	N100	93	97	116	113	139	128	Z+	Z	Z	Z	88	130		2
30				95	N115	Z	Z	Z	Z	Z	N201	Z+	Z	Z+	202	151	116	N114	127	112	112	115	102	93	101	105	109		2
31	✓	✓	✓	103	114	119	112	92	74	70	83	78	72	77	77	64	83	84	86	80	83	77	74	74	58	62	70	82	0
MEANS * 18 DAYS				67	71	73	74	74	70	65	65	67	68	70	72	75	78	83	84	84	78	69	70	66	65	65	64	72	
MEANS † 18 DAYS				67	71	73	74	74	70	65	65	67	68	70	72	75	78	83	84	84	78	69	70	66	65	65	64	72	
MEANS ‡ 17 DAYS				67	71	72	74	72	69	65	64	67	67	70	72	74	78	84	85	85	79	69	69	69	66	64	64	72	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌜ ⌟=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 466

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	749.9	11.1	59	19.1	2.5		9.1	SSE	2	SE	1	ENE	3	ESE	1		0		0	Few Ci clouds at night
2	746.2	10.6	56	21.0	2.9		7.3	..	0	NNW	2	NNW	9	..	0	Ci; CiSt; Cu	4- 7	Cu	4- 6	Dew early; clear at night
3	742.2	13.6	54	20.6	2.4		2.9	..	0	N	2	W	5	..	0	ASt; StCu; Cu	1- 6	StCu; Cu; Nb	7-10	Rain in pm
4	743.2	13.8	81	17.5	10.3	0.29	5.1	..	0	..	0	SSW	5	SW	2	ASt; Cu; Nb	3-10	Cu; Nb; ACu	4- 6	Showers through the day
5	747.1	11.4	83	18.1	4.1	T	3.1	..	0	..	0	SW	3	..	0	ACu; ASt; Cu; CuNb	8- 6	ASt; Cu	6- 1	Dew early
6	748.1	11.1	93	18.4	3.8		4.9	..	0	..	0	..	0	S	2	Cu; StCu	7- 8	Cu; StCu	6- 4	Fog early; clearing in evening
7	748.3	11.7	89	18.3	4.7		7.9	S	1	SE	1	E	2	SE	2	ASt; Cu; FrCu	1- 3	ASt; Cu; FrCu	4- 8	Dew early; clearing at night
8	750.8	11.3	69	17.8	5.7		9.4	ESE	5	E	5	E	9	ESE	5	Ci; FrCu	1- 3	Ci; FrCu	1- 3	Dew early; fire in SW in pm
9	751.6	11.1	63	18.0	4.5		8.6	ENE	6	ESE	5	NE	8	ESE	3	Ci; StCu	1- 3	Ci	1- 3	
10	749.2	11.1	63	18.7	1.7		9.1	..	0	..	0	..	0	SE	3		0	Ci; ACu	1- 3	Dew early; fire in SW
11	749.1	10.9	59	20.4	2.7		8.6	SSE	1	SE	2	NNE	7	..	0	Ci; CiCu; CiSt	3- 7	Ci; CiSt; ACu	1- 3	
12	749.0	12.8	49	20.8	2.8		8.8	..	0	NNE	1	NW	2	SW	1		0	ACu	1- 3	
13	748.3	13.6	74	18.9	2.2		4.2	..	0	..	0	SSW	5	..	0	ASt; Cu; StCu	3- 6	ASt; Cu; StCu	3- 6	
14	749.6	10.6	82	14.8	3.5		0.7	..	0	E	9	E	7	SE	2	Cu; StCu; CuNb	3-10	ACu; StCu; CuNb	10- 3	
15	747.8	11.7	53	17.9	5.5		9.2	SE	2	ESE	6	E	7	ESE	4	ACu; Cu; StCu	3- 6	ACu; Cu; StCu	3- 6	
16	744.4	14.1	48	22.3	5.0		9.0	NNE	2	NNE	3	NNW	4	..	0	CiSt	1- 3	Cu; StCu	1- 6	
17	741.4	14.8	61	20.8	9.0		4.3	N	1	NNW	1	W	12	WNW	6	ACu; Cu; StCu	7-10	StCu; CuNb; Nb	7-10	Rain in evening
18	742.3	11.8	69	14.2	6.9	0.17	6.2	WSW	5	WSW	5	S	11	S	5	ACu; Cu; CuNb; Nb	7-10	ACu; Cu; CuNb; Nb	7-10	Rain in am and pm
19	744.7	9.9	94	17.1	8.2	0.06	6.5	..	0	SSE	6	ESE	4	SSE	2	ACu; Cu; StCu	3- 9	ACu; Cu; StCu	3- 6	
20	747.3	11.7	78	18.9	4.2		9.5	SSW	1	..	0	ESE	1	SE	3	ASt; Cu	1- 3	Cu	1- 3	Dew early
21	747.9	13.1	66	19.3	4.0		8.0	SSE	2	E	3	ENE	7	ESE	6	Ci	0- 1	Ci; StCu	1- 6	Dew early
22	747.7	12.2	58	16.1	8.8		0.0	ENE	5	NE	6	NE	7	ENE	7	ACu; ASt; StCu	10	ASt; StCu	10	
23	743.1	12.8	40	16.7	11.5		0.0	NE	6	NE	10	NNE	9	NNE	8	ASt; StCu; Nb	10	StCu; Nb	10	Some rain in evening
24	735.0	14.3	80	17.8	10.9	0.04	0.0	NNE	9	N	13	NNW	10	NW	8	StCu; Nb	10	StCu; Nb	6-10	Occasional light rains
25	730.8	16.9	82	16.9	12.8	0.27	4.2	NNW	2	NW	8	WSW	7	WNW	3	Cu; Nb	7-10	Cu; Nb	7-10	Rain
26	738.4	10.3	89	15.0	6.5	0.21	5.5	WSW	2	WSW	3	SW	9	SW	1	ASt; StCu; Nb	7-10	StCu; CuNb	7-10	Rain
27	742.5	10.0	73	14.7	2.0	0.26	7.0	..	0	..	0	SSW	4	S	2	ACu; ASt	1- 8	ACu; ASt	8- 3	Cleared in evening
28	743.1	10.0	75	16.7	0.3		8.9	..	0	..	0	NNW	6	WSW	1	ACu; ASt	3- 6	ACu; ASt	3- 6	Dew early and in evening
29	733.1	11.8	93	17.7	5.4	0.21	4.5	N	5	NNW	9	WNW	20	WNW	7	StCu; Nb	7-10	ASt; StCu; Nb	7-10	Rain from early am; distant thunderstorms in evening
30	737.2	9.2	93	14.4	8.0	0.39	5.0	WSW	5	WSW	10	SSW	16	WSW	1	Cu; CuNb; Nb	6- 8	ASt; Cu; CuNb	6- 8	Rain
31	747.2	13.2	76	17.8	8.6	0.01	2.0	..	0	..	0	SE	1	S	1	Cu; StCu	7-10	Cu; StCu	6- 1	Dew in evening; clear sky at night
SUM						1.91														
MEAN	744.7	12.0	71	17.9	5.5		5.8		2.0		3.6		6.5		2.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 467

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	258	283	290	307	321	329	316	323	340	319	254	254	234	(240)	217	214	214	214	206	209	212	230	266	282	264	0
2	✓	✓	✓	282	296	307	310	326	336	334	347	350	319	285	259	226	192	183	192	195	202	212	228	261	269	292	307	271	0
3	✓			324	350	368	362	352	338	354	355	338	319	259	212	183	}175{	178	202	}155{	196	214	}121{	145	212	155	206}	253	2
4	✓			}162{	212	254	278	285	285	300	313	305	261	212	197	192	180	173	169	168	168	175	182	203	223	240	216	223	1
5	✓	✓	✓	226	226	268	296	326	365	370	357	384	324	258	224	192	186	183	188	173	183	189	193	⌈193	214	221	226⌋	249	0
6	✓			⌈178	154	178	173	235	197	230	362	279	310⌋	275	231	220	214	212	214	206	178	176	203	214	216	226	226	221	0
7	✓	✓	✓	230	237	237	238	234	⌈197	240⌋	245	255	254	207	193	197	197	199	195	193	199	213	217	224	214	195	183	216	0
8	✓	✓	✓	214	234	238	245	257	266	279	285	300	268	252	219	202	(178)	172	179	180	⌈155⌋	196	200	⌈203⌋	199	209	245	224	0
9	✓	✓	✓	278	302	300	300	321	330	326	347	350	324	257	224	209	197	203	200	197	214	212	214	226	220	243	262	261	0
10	✓	✓	✓	278	274	292	307	302	295	288	307	292	282	240	227	221	213	⌈202	127⌋	182	189	188	196	197	203	221	237	240	0
11	✓	✓	✓	255	262	268	268	254	262	288	321	361	377	321	254	235	224	214	212	212	⌈192	166	200	189	220	233⌋	258	252	0
12	✓	✓	✓	268	265	282	305	313	314	317	330	321	279	245	212	197	192	202	204	210	⌈193	178⌋	189	196	210	202	209	243	0
13	✓			213	228	234	231	268	300	341	367	⌈314	213⌋	200	186	193	183	175	165	169	173	203	199	203	240	238	254	229	0
14	✓	✓	✓	266	274	305	288	268	252	224	230	⌈155	195⌋	217	223	226	227	234	212	223	226	216	214	227	226	234	237	233	0
15	✓	✓	✓	245	227	247	262	290	310	324	331	334	289	238	196	169	(166)	154	164	171	179	196	193	197	221	251	281	235	0
16	✓	✓	✓	290	298	296	292	283	278	279	296	268	238	223	203	202	197	202	197	202	212	202	212	223	245	259	290	245	0
17	✓			302	296	296	286	288	292	314	319	313	272	234	212	196	180	164	162	}155{	143	107}	161	157	159	158	155	222	2
18	✓			164	165	169	169	169	172	185	182	173	162	161	161	}154{	155}	172	}157{	168	164	168	172	172	171	183	178	169	1
19	✓	✓	✓	171	178	195	186	172	173	165	166	151	158	192	182	173	183	185	196	203	214	212	210	192	178	183	186	184	0
20	✓			202	183	169	⌈154	114	138⌋	158	165	240	272	268	240	237	226	221	216	203	200	207	216	226	216	224	216	205	0
21	✓			214	221	238	258	283	302	312	338	379	369	326	266	255	255	⌈230	240⌋	248	254	248	254	254	264	266	271	273	0
22	✓	✓	✓	282	296	310	319	300	292	281	262	238	217	203	214	226	(223)	226	216	⌈197	213	212⌋	235	223	220	238	251	246	0
23	✓	✓		255	235	230	238	247	241	234	248	241	240	234	221	209	203	212	213	213	217	199	182	}179	196}	200	193	220	1
24	✓			197	212	209	203	199	195	195	196	193	188	178	183	182	186	186	}169{	203	196	175	178	}155{	157	151	157	185	1
25	✓			155	159	164	}161{	165	158	168	169	175	}169{	151	147	145	152}	164	}169{	161}	169	175	176	}141{	171	171	169	163	2
26	✓			168	175	182	183	192	186	}173{	192	}185{	192	178	138}	171	}134{	161	164	165	169	} 58	155	173	155	192}	193	168	2
27	✓	✓	✓	197	207	224	221	212	221	251	262	243	199	195	182	180	161	130	141	141	171	183	185	188	189	199	200	195	0
28	✓	✓	✓	220	203	204	231	248	258	290	309	262	254	230	217	193	165	143	138	138	144	151	158	169	209	210	197	206	0
29	✓			192	185	183	192	186	183	182	{ 89	141	158	155}	171	161	(143)	133	157	147	149	}138{	109	106	133	166}	172	155	2
30	✓			168	}154{	168	175	165	164	143	168	161	145	157	155}	154	155	157	159	155	157	171	183	180	172	185	183	164	2
31	✓	✓	✓	192	197	202	212	220	227	240	216	217	207	195	192	193	197	192	193	182	185	171	180	189	203	209	200	200	0
MEANS * 31 DAYS				227	232	242	247	251	253	261	271	266	251	226	206	198	190	186	185	185	188	184	191	194	205	214	221	220	
MEANS † 18 DAYS				245	250	261	268	272	275	280	288	281	264	236	216	205	197	192	188	190	195	195	201	205	215	226	236	233	
MEANS ‡ 17 DAYS				244	251	263	270	273	277	283	290	284	265	236	216	204	196	191	186	189	193	194	202	206	216	227	238	233	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 468

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	201	244	259	260	281	284	292	295	320	287	241	253	232	229	(197)	204	201	194	168	176	158	170	207	236	233	0
2	✓	✓	✓	240	250	259	257	285	307	310	314	333	306	188	167	234	196	186	186	187	185	202	216	240	250	281	296	245	0
3	✓			319	346	367	367	357	339	366	354	336	310	255	213	191	192	174	186	210	174	181	185	137	148	174	168	252	2
4	✓			188	177	210	242	234	238	229	250	273	209	177	159	169	167	156	154	144	133	113	129	150	176	186	163	184	1
5	✓	✓	✓	170	151	191	223	268	294	318	318	322	275	231	203	169	167	152	158	146	136	133	131	[141	151	159	170]	199	0
6	✓			[131	95	118	120	205	128	181	299	231	270]	250	209	203	185	168	172	167	152	137	155	165	167	186	185	178	0
7	✓	✓	✓	188	202	196	199	175	[143	210]	211	221	240	211	187	191	184	180	186	185	180	180	190	186	178	166	147	189	0
8	✓	✓	✓	180	216	220	230	223	229	240	259	278	256	250	218	199	177	(173)	174	170	[140]	172	175	[179]	181	190	229	207	0
9	✓	✓	✓	256	277	278	277	256	264	263	294	333	323	264	220	204	199	198	187	182	191	188	190	202	191	220	226	237	0
10	✓	✓	✓	233	236	259	274	283	272	264	253	246	256	237	219	212	198	[184	118]	169	173	162	166	158	169	180	207	214	0
11	✓	✓	✓	220	244	258	253	239	243	256	287	333	352	308	253	236	221	205	191	191	[166	144	177	154	190	202]	224	231	0
12	✓	✓	✓	237	247	264	275	307	318	319	317	299	279	250	218	209	199	186	180	173	[153	147]	167	166	165	166	175	226	0
13	✓			180	223	227	225	240	272	294	298	[260	179]	168	168	179	167	160	148	148	144	146	137	148	199	205	236	198	0
14	✓	✓	✓	213	219	234	250	253	264	225	232	[159	188]	212	216	224	227	234	210	214	211	196	196	191	190	205	192	215	0
15	✓	✓	✓	199	193	210	229	254	277	305	318	328	275	234	188	168	162	(150)	155	162	173	177	173	178	204	230	257	217	0
16	✓	✓	✓	269	257	248	245	242	230	240	254	246	240	230	210	209	201	201	190	187	187	177	176	200	227	242	278	224	0
17	✓			302	305	278	258	270	269	288	296	307	294	244	213	210	189	177	167	121	151	162	148	144	133	132	131	216	2
18	✓			124	136	137	133	135	131	135	136	162	144	140	143	143	153	155	124	135	131	123	141	140	134	131	136	138	1
19	✓	✓	✓	134	122	133	131	133	131	131	121	131	144	176	168	165	175	184	187	196	188	173	154	158	137	146	166	154	0
20	✓			180	162	147	[109	74	105]	131	116	204	243	242	217	220	216	209	202	190	188	177	177	186	187	199	182	178	0
21	✓			177	191	199	213	242	267	284	306	360	359	328	267	263	256	[225	239]	242	238	224	236	244	252	252	254	255	0
22	✓	✓	✓	257	257	275	282	263	251	240	227	220	209	199	205	216	217	206	192	[170	188	185]	210	198	201	220	230	222	0
23	✓	✓		230	206	203	205	214	209	209	214	217	217	216	211	194	200	202	202	192	197	184	175	186	185	177	176	201	1
24	✓			175	180	170	176	166	173	176	174	184	181	170	174	176	187	187	188	210	181	158	157	153	140	128	127	170	1
25	✓			133	126	122	148	146	135	138	141	155	145	158	150	158	155	143	123	112	124	116	129	144	140	133	126	138	2
26	✓			126	121	124	121	107	111	145	133	148	140	163	163	147	155	148	148	144	133	157	122	131	151	104	88	135	2
27	✓	✓	✓	100	124	147	146	126	155	177	209	188	169	167	162	148	147	116	121	121	137	129	141	129	140	154	[158]	146	0
28	✓	✓	✓	[155	157	133	116	180	199	224	240]	194	216	215	203	177	150	124	120	121	118	128	131	133	167	188	169	165	0
29	✓			172	155	158	159	160	165	170	232	176	158	180	162	155	145	(147)	151	135	136	146	109	137	159	140	121	155	2
30	✓			115	131	100	84	109	100	127	116	116	148	131	129	133	137	135	135	133	131	118	120	124	121	110	121	122	2
31	✓	✓	✓	121	[117	106	131	135	173	172]	162	166	162	159	151	159	150	154	148	148	138	131	131	143	158	162	160	147	0
MEANS * 31 DAYS				191	196	201	204	212	215	228	238	240	231	213	194	190	184	175	169	168	164	159	162	165	173	180	185	193	
MEANS † 16 DAYS				200	207	215	221	229	236	244	251	252	244	222	203	197	189	180	173	173	170	165	171	172	181	194	205	204	
MEANS ‡ 17 DAYS				198	207	216	222	230	237	246	254	254	246	222	202	197	188	178	171	172	168	164	171	171	181	195	207	204	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 469

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	69	78	83	93	100	[80	149	129]	95	84	71	67	64	69	68	69	74	69	61	62	64	69	73	78	80	0
2	✓	✓	✓	82	80	101	111	102	80	69	60	60	68	68	83	78	79	80	83	87	78	55	54	52	55	52	52	74	0
3	✓	✓	✓	66	68	66	65	61	57	63	64	64	68	64	64	74	76	80	82	91	89	87	92	65	55	64	64	70	0
4	✓	✓	✓	66	71	77	73	66	64	54	55	67	74	74	75	78	76	79	81	89	87	87	74	56	47	44	43	69	0
5	✓	✓		47	52	[77	87	65]	58	46	45	59	75	83	82	90	97	107	103	92	96	≷67	78	N150	N 88	N 76	N 38≷	77	1
6			≷	Z	N 49	138	136	122	114	106	96	80	69	75	74	74	69	82	84	87	101	87	83	83	86	80	76		1
7	✓	✓	✓	68	65	69	75	67	69	58	74	75	69	81	82	82	95	83	80	98	82	55	68	58	64	79	69	74	0
8				59	59	60	64	63	55	58	60	61	63	75	79	91	96	98	98	99	94	87	≷Z	71	101≷	84	97		1
9	✓	✓	≷	N 17≷	89	101	105	113	96	74	95	87	86	73	79	88	79	78	85	75	102	83	83	87	92	98	93	86	1
10	✓			80	77	85	91	87	79	72	70	70	74	69	69	69	74	78	80	77	78	66	66	65	63	64	69	74	0
11	✓	✓	✓	74	87	89	86	69	65	56	60	69	71	71	69	73	71	68	76	70	62	48	52	61	59	55	50	67	0
12	✓	✓	✓	49	47	44	54	59	51	62	65	76	75	74	70	71	69	66	70	71	70	47	53	50	53	47	51	60	0
13	✓	✓		56	53	69	53	50	41	38	52	59	86	81	87	92	91≷	65	N 30	141≷	87	93	122	94	84	80	[98]	75	1
14	✓	✓	✓	72	73	83	[87	84]	73	70	[84]	78	79	58	65	86	83	84	90	87	97	81	63	62	53	47	46	74	0
15				53	50	46	55	57	50	65	≷55	74	67	N 51	N 64	Z	Z	N 82	N 83≷	73	82	≷Z+	Z+≷	76	73	85	86		1
16				88	82	91	93	80	84	69	68	79	61	67	59	69	61	62	77	66	71	≷N 59≷	74	64	≷Z	Z	N 37≷		1
17			≷	Z	155	N127	132	N146	N 96	Z	117	Z	N103≷	105	90	≷N 81	N 59	N 88	N 56	N 89≷	85	82	95	100	100	108	[131]		2
18	✓	✓		[157	169	151	159	137	123	106	91]	69	69	58	59	60	66	75	67	72	80	68	78	73	82	83	86	93	0
19	✓	✓		87	99	122	130	108	101	96	96	77	73	76	80	70	81	76	85	90	93	73	75	90	[96	78]	[183]	93	0
20	✓	✓		[199	179	229	216	175	163	133	120]	90	80	76	77	85	82	84	82	97	90	84	76	74	76	69	69	113	0
21	✓			77	91	110	102	91	92	76	53	58	55	60	59	65	70	79	74	80	75	69	80	88	86	85	81	77	0
22	✓	✓	✓	81	79	94	84	69	57	46	47	52	55	65	68	69	68	76	78	73	86	79	80	76	81	80	80	72	0
23	✓	✓	✓	82	87	91	80	76	71	57	50	52	54	54	71	69	73	78	81	87	85	64	71	68	69	74	74	72	0
24	✓	✓	✓	74	84	90	90	73	59	58	54	55	67	69	73	83	82	81	85	69	54	49	55	59	59	59	63	68	0
25	✓	✓	✓	65	64	59	66	55	50	42	47	55	60	67	67	81	83	93	90	95	90	87	79	82	67	92	99	72	0
26	✓	✓		[154	109	179	159	146	116	188	105]	130	130	93	93	133	140	103	114	114	103	104	97	97	91	103	110	121	0
27	✓	✓		112	108	83	77	≷58	89	N 64	90	137	105	69	71	62	87≷	93	118	116	120	112	112	114	117	118	114	98	1
28	✓	✓		113	[155	148	140]	109	86	74	69	66	69	59	62	69	68	75	77	82	79	69	74	82	80	82	86	86	0
29	✓	✓	✓	95	90	88	72	64	66	50	53	51	50	50	54	67	66	74	77	74	76	57	62	71	79	87	90	69	0
30	✓			101	98	84	60	64	69	63	73	76	79	83	92	85	79	82	87	80	75	68	62	53	62	57	44	74	0
31																													
MEANS * 25 DAYS				88	93	102	100	89	81	77	74	76	77	73	76	81	83	83	85	91	88	76	78	78	75	76	79	82	
MEANS † 22 DAYS				89	94	103	102	90	81	78	75	77	78	73	76	82	84	84	86	92	89	77	79	79	76	77	81	83	
MEANS ‡ 13 DAYS				73	75	80	80	73	65	64	65	65	67	67	70	75	76	78	80	82	79	66	67	63	62	66	66	71	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 470

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h-03h DIR.	02h-03h VEL.	08h-09h DIR.	08h-09h VEL.	14h-15h DIR.	14h-15h VEL.	20h-21h DIR.	20h-21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	748.3	14.3	74	20.6	5.5	0.01	9.2	SSW	1	ESE	1	NE	1	SSE	2	FrCu	1- 8	FrCu	8- 1	Fog early; clear sky at night
2	747.3	16.8	55	23.1	5.9		10.0	..	0	..	0	N	4	..	0	ACu	1- 3	ACu	1- 3	Dew early; clear sky at night
3	745.7	17.2	51	24.4	6.8		10.2	NNW	1	N	2	WNW	5	SSE	1	ACu; ASt; Cu	1- 3	ACu; ASt; Cu	1- 3	
4	743.3	15.9	72	23.2	5.4		9.8	..	0	..	0	WNW	5	..	0	ACu; ASt; FrCu	1- 6	ACu; ASt	3- 6	Dew early
5	738.1	17.7	67	22.2	7.7		7.2	..	0	NNW	1	WNW	17	WNW	11	ACu; Cu; StCu	3- 8	Cu; StCu; CuNb	4- 6	Rain in pm
6	740.0	13.7	64	16.6	10.7	0.27	5.0	SW	12	SW	10	SSW	14	SW	2	ASt; StCu; CuNb	3- 7	Cu; StCu	4- 6	
7	746.7	12.2	64	16.7	1.5		10.2	..	0	NNE	2	ENE	4	..	0	ASt; Cu	1- 3	ASt; Cu	1- 3	Dew early
8	736.0	15.0	43	20.9	0.2		9.5	..	0	NNW	2	W	13	SSW	9	Ci; Cu; StCu	1- 3	Cu; StCu; CuNb	4- 6	Rain in pm
9	739.7	13.1	71	16.8	6.4	0.32	7.0	..	0	SSE	3	S	6	S	2	ASt; ACu; CuNb	3- 7	ACu; Cu	3- 6	Few drops rain in am
10	745.1	12.2	61	17.3	3.8		9.1	S	2	ESE	5	ESE	4	SE	3	ASt; ACu	1- 6	ASt; ACu	4- 6	Dew early; cleared in evening
11	744.7	17.6	43	22.8	5.1		10.4	SSE	2	NE	6	NE	10	ESE	3		0		0	Dew early
12	741.9	18.3	44	25.6	8.2		10.2	..	0	NE	7	NNE	7	..	0		0		0	
13	735.2	20.8	50	23.7	6.9		7.3	NW	3	NNW	2	W	13	..	0	ASt; Cu; StCu; Nb	1- 3	ASt; Cu; StCu; Nb	4- 8	Dew early; rain in pm; sky clear at night
14	740.8	15.7	60	19.8	9.2	0.07	5.6	..	0	..	0	W	10	WSW	1	ACu; ASt; StCu	3- 8	ACu; ASt; StCu	8- 3	
15	740.3	15.0	80	17.6	7.7		3.5	..	0	NNW	7	WSW	16	W	2	ASt; Cu; StCu; Nb	7- 8	ASt; Cu; StCu; Nb	4- 8	Rain; clearing in evening
16	743.8	13.7	74	17.6	8.3	0.19	3.5	..	0	..	0	WSW	10	WNW	3	ACu; Cu; StCu	7- 8	Cu; StCu; Nb	7- 8	Rain in evening
17	742.6	11.7	76	14.7	7.5	0.41	7.1	SW	6	SSW	8	SSW	9	S	2	Cu; CuNb; Nb	4- 8	Cu; Nb	7- 8	Rain at 9h and at intervals
18	748.6	12.2	68	17.3	3.3	0.02	4.4	SE	2	ESE	1	SSE	7	S	2	ACu; ASt	6-10	ACu; ASt	6- 8	
19	751.2	14.1	72	19.7	5.0		10.7	S	1	E	2	ESE	3	S	2	Cu	1- 3	Cu	1- 3	Dew early
20	748.2	15.6	60	21.5	5.7		9.7	..	0	SSE	2	SSW	5	S	2	Ci; Cu	1- 6	Ci; Cu	6- 1	Dew early; clear at night
21	748.2	13.9	71	18.6	6.3		7.6	S	2	ESE	11	ESE	8	SE	5	ACu; ASt	7-10	ACu; ASt	6- 3	Dew early; clear at night
22	747.6	13.3	62	22.8	6.8		6.5	SE	4	ESE	4	ENE	2	SE	3	Ci; CiSt; ACu; Cu	6-10	Ci; ACu; Cu	4- 6	
23	746.3	19.1	44	25.0	8.4		9.0	SE	2	E	4	ENE	2	SE	3	ACu; FrCu	1- 3	Cu	1- 3	Clear at night
24	745.0	20.1	36	27.2	7.6		8.6	SE	3	NE	4	E	4	..	0	CiSt; ASt; ACu	1- 3	CiSt; ACu	4- 6	
25	743.3	23.4	28	30.6	8.5		9.8	ESE	2	NNE	6	NNE	7	W	1	ACu; ASt	1- 3	ACu	4- 6	
26	742.3	19.3	65	23.1	13.5		7.2	NNW	2	NW	6	W	10	WSW	1	CiSt; ACu; Cu	7-10	Ci; ACu; Cu	7-10	Dew early
27	743.5	15.2	93	19.8	6.3	0.03	1.6	SSW	1	SSE	7	SSE	3	S	3	CuNb; Nb	10	Cu; ACu	9- 3	Light rains in am; clear in evening
28	744.4	15.2	63	22.1	7.5		8.9	SSW	2	E	7	E	4	ESE	4	ACu; ASt; Cu; StCu	3-10	Cu	3- 6	
29	744.5	17.4	50	23.4	7.9		10.8	ESE	5	NE	4	ENE	3	SE	2	Ci	1- 3	Cu; StCu	1- 3	
30	741.2	19.5	45	23.7	9.0		3.5	..	0	NNE	12	NNW	3	..	0	CiSt; ASt; ACu	10- 3	ASt; ACu	3-10	
31																				
SUM						1.32														
MEAN	743.8	16.0	58	21.3	6.8		7.8		1.8		4.2		7.0		2.3					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 471

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	219	220	219	212	204	[206	116	150]	179	193	190	215	237	222	222	216	207	203	200	200	197	198	185	182	200	0
2	✓	✓	✓	193	188	179	168	169	196	215	273	281	223	209	200	178	175	175	178	179	178	185	185	187	191	209	225	197	0
3	✓	✓	✓	234	244	250	260	263	269	266	[282]	254	234	223	219	196	181	178	171	169	160	156	154	179	181	178	181	212	0
4	✓	✓	✓	190	191	197	203	229	238	237	253	194	191	176	172	176	173	169	168	163	156	150	168	200	220	243	245	196	0
5	✓	✓		250	251	[245	231	247]	315	348	356	269	194	175	162	153	(146)	132	123	129	134	128	126	128	126	126	107	192	1
6				88}	107	122	137	140	148	160	157	157	151	153	157	162	162	162	159	163	157	162	171	184	185	191	198		1
7	✓	✓	✓	222	225	237	245	259	266	270	254	240	237	191	175	176	166	168	168	157	168	169	181	185	191	193	215	207	0
8	✓			238	259	263	270	259	298	284	290	307	282	220	175	162	156	160	159	156	154	148	{118	166	162}	150	159	208	1
9	✓	✓		{148}	163	166	172	173	187	218	225	196	187	178	178	171	169	169	169	171	172	181	179	172	175	181	171	178	1
10				176	185	188	190	197	206	213	226	222	—	—	—	—	—	—	—	176	181	193	190	201	212	219	225		0
11	✓	✓	✓	226	223	231	238	273	291	310	340	270	248	223	206	197	196	193	187	193	200	200	200	203	215	229	244	231	0
12	✓	✓	✓	281	295	304	318	304	295	281	272	241	218	197	197	182	(178	172)	173	172	171	176	176	200	212	237	251	229	0
13	✓	✓		254	281	266	328	340	369	370	370	304	216	172	162	156	156	156	{150}	166	163	163	153	165	171	185	[163]	224	1
14	✓	✓	✓	207	240	238	[213	222]	234	229	[259]	210	166	153	151	150	148	150	157	157	157	160	172	181	204	219	223	192	0
15	✓			237	266	279	278	273	290	234	196	187	176	{160	162	144	125	138}	150	148	150	160	148	157	169	168	166	190	1
16	✓			163	175	176	175	179	178	209	218	204	182	176	173	165	159	146	162	162	162	157	162	176	{141	137	144}	170	1
17	✓			{126	151	150}	153	{151	148	138	168	150	176}	179	168	162	160	162	163	162	163	163	163	173	184	179	[153]	160	2
18	✓	✓		[131	131	134	135	156	162	176	203]	204	190	185	176	181	178	178	175	166	150	172	176	181	181	190	182	171	0
19	✓	✓		153	138	131	138	150	162	176	188	206	225	213	198	196	(190	165)	162	162	160	160	163	171	[162	122	88]	166	0
20	✓	✓		[76	85	88	115	115	118	132	148]	179	193	201	194	176	162	157	150	148	151	162	157	175	172	176	(191)	151	0
21				—	—	—	—	—	—	—	—	204	191	193	190	185	171	169	168	178	184	191	193	197	200	210	219		0
22	✓	✓	✓	231	257	270	290	312	343	372	390	370	323	220	198	190	193	191	181	148	151	156	154	176	179	185	201	237	0
23	✓	✓	✓	207	222	254	270	298	323	351	372	354	303	275	245	223	210	201	185	169	166	175	173	197	197	201	216	241	0
24	✓	✓	✓	220	238	247	262	279	294	297	337	313	265	237	206	191	185	179	173	196	203	[191]	197	203	203	238	237	233	0
25	✓	✓	✓	260	288	304	290	319	353	372	356	278	237	223	200	188	182	178	171	171	163	168	191	(178	184)	172	157	233	0
26	✓	✓		[132	153	132	129	131	132	88	132]	151	159	150	148	146	(144)	150	150	151	151	150	157	176	179	176	171	147	0
27	✓	✓		168	182	231	235	{259	162	219	207}	162	147	151	156	157	153	157	160	156	146	157	154	156	159	162	163	173	1
28	✓	✓		157	[148	162	162]	198	226	231	228	238	241	222	207	185	175	171	162	162	157	160	157	157	162	159	166	183	0
29	✓	✓	✓	176	194	226	265	284	291	291	310	318	279	268	235	220	206	191	190	185	185	191	188	188	191	182	172	226	0
30				171	179	[216	253]	273	266	245	223	216	204	190	179	173	172	168	163	162	179	190	193	223	222	219	234		0
31																													
MEANS * 26 DAYS				196	208	215	221	233	244	247	261	241	219	199	188	179	173	170	167	166	164	167	167	178	181	184	184	198	
MEANS † 22 DAYS				197	207	214	222	236	247	253	268	246	221	201	191	183	177	173	169	167	166	169	171	180	184	189	189	201	
MEANS ‡ 13 DAYS				220	233	243	249	263	277	277	296	269	240	214	201	193	186	182	178	174	174	175	180	190	197	205	211	218	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 472

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	171	168	168	158	134	[166	71	105]	158	179	176	201	220	200	193	182	188	182	164	169	164	168	158	154	167	0
2	✓	✓	✓	154	154	138	121	130	146	192	239	251	219	202	192	168	161	161	152	147	140	158	152	156	165	185	192	170	0
3	✓	✓	✓	211	228	230	248	249	260	249	[241]	233	222	217	209	188	182	173	165	156	146	135	131	146	146	149	153	194	0
4	✓	✓	✓	158	162	160	176	171	200	214	205	168	155	146	149	159	169	169	162	151	134	129	131	154	181	184	202	166	0
5	✓	✓		212	219	[201	188	204]	263	306	330	253	186	169	154	153	152	(146)	119	121	125	128	126	121	131	125	121	177	1
6				—	—	—	—	—	—	—	—	141	138	141	148	151	153	148	141	141	129	126	121	121	121	133	146		1
7	✓	✓	✓	155	184	172	169	[188	196]	218	193	184	213	193	171	171	158	158	154	138	141	145	147	154	151	161	192	171	0
8	✓			202	229	237	233	218	255	261	262	293	285	222	195	180	168	168	158	158	151	148	≷188	146	136≶	131	130	198	1
9	✓	✓	≷	154≶	121	117	115	84	125	156	138	164	161	158	161	156	148	147	147	146	135	122	121	124	131	116	116	136	1
10				184	142	143	143	153	151	153	195	209	—	—	—	—	—	—	—	169	169	161	158	169	176	182	181		0
11	✓	✓	✓	181	181	172	196	222	245	268	298	251	248	227	215	204	196	195	184	181	191	181	165	179	188	201	252	209	0
12	✓	✓	✓	264	267	271	255	252	242	233	234	225	217	195	189	184	176	(172)	153	154	148	165	168	182	194	209	230	207	0
13	✓	✓		242	265	252	300	315	336	348	327	295	230	188	174	165	159	153≶	158≶	142	142	134	114	108	122	142	[120]	205	1
14	✓	✓	✓	171	185	186	[167	176]	193	204	[191]	195	162	158	153	153	151	147	148	151	131	133	143	148	173	201	211	168	0
15	✓			215	238	251	239	233	264	211	188	172	176	≷176	166	167	159	136≶	134	130	134	≷121	116≶	130	126	124	121	172	1
16	✓			181	122	121	124	136	131	151	172	168	167	167	165	162	158	145	142	143	142	146	145	151	≷186	156	135≶	148	1
17	✓		≷	121≶	101	114	105	≷101	136	124	141	133	152≶	159	165	158	161	159	158	147	143	134	117	121	124	125	[102]	133	2
18	✓	✓		[83	64	56	60	90	94	96	125]	172	165	181	166	169	165	161	153	146	130	134	131	136	134	139	136	129	0
19	✓	✓		114	108	97	97	110	120	131	143	192	208	205	194	188	175	(166)	151	145	134	130	139	145	[131	98	70]	141	0
20	✓	✓		[49	48	43	71	57	75	102	121]	160	180	188	182	164	151	142	138	136	136	139	141	138	148	136	151	125	0
21				153	136	121	129	135	176	197	194	193	194	203	201	188	180	174	176	174	175	178	160	165	167	171	175		0
22	✓	✓	✓	185	214	206	251	284	325	345	367	365	324	230	199	184	182	174	169	146	145	148	146	146	146	158	166	217	0
23	✓	✓	✓	176	179	181	212	237	253	280	328	336	313	278	245	217	197	186	178	169	162	158	146	169	172	181	184	214	0
24	✓	✓	✓	196	215	215	231	268	265	271	312	303	265	242	215	188	176	174	168	165	181	[173	169	174	173]	218	219	216	0
25	✓	✓	✓	238	252	265	260	299	327	346	326	277	245	242	214	196	186	174	165	156	161	158	169	160	165	147	138	219	0
26	✓	✓		[108	117	97	99	108	98	67	124]	156	161	151	149	146	147	(148)	134	135	136	122	120	130	141	131	121	127	0
27	✓	✓		112	124	180	173	≷180	121	195	171≶	130	138	153	149	152	140	145	142	130	112	103	102	(121)	120	121	117	139	1
28	✓	✓		111	[85	108	116]	158	195	206	227	240	242	233	209	187	168	159	147	148	139	133	133	134	139	139	139	162	0
29	✓	✓	✓	146	169	204	238	257	262	293	303	312	277	267	236	206	193	174	165	152	156	169	151	158	168	156	146	207	0
30				125	138	[155	199]	234	222	209	197	204	194	181	172	171	164	158	148	148	160	161	156	186	180	—	—		0
31																													
MEANS * 26 DAYS				163	169	171	177	187	204	213	224	223	211	197	185	176	168	162	155	149	145	143	142	146	152	154	155	174	
MEANS † 22 DAYS				163	168	169	177	190	205	218	229	228	214	200	188	178	170	164	156	150	146	144	142	148	154	157	160	176	
MEANS ‡ 13 DAYS				185	196	198	206	221	237	245	257	251	234	213	199	188	179	173	165	158	155	155	153	161	168	178	188	194	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 473

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				74	103	95	-73	-102	138	131	95	99	104	85	Z	73	79	90	98	106	100	110	110	N 90	101	125	110		1
2				117	105	97	116	114	101	91	78	109	109	Z+	Z	Z	Z	N 15	-2	Z	Z	Z	184	Z	N160	Z	Z		2
3				Z	251	Z+	Z+	155	128	117	106	82	89	81	87	80	93	88	92	97	99	98	106	112	109	91	84		1
4	✓	✓	✓	82	74	90	96	80	66	65	74	91	98	82	82	89	90	100	89	101	94	97	92	97	88	94	74	87	0
5	✓	✓	✓	69	83	77	78	117	78	78	73	69	73	81	90	84	87	90	90	83	88	79	85	86	102	109	115	86	0
6				84	106	92	95	104	Z	Z	N 37	85	100	82	73	84	90	N 75	103	N 75	N 64	N 80	N 16	N 68	N 85	91	114		1
7	✓	✓		112	N114	111	104	102	101	90	80	73	74	69	68	75	80	76	70	73	78	78	75	77	82	85	98	85	1
8	✓	✓		126	131	144	169	134	109	89	63	65	72	77	87	99	104	113	116	123	121	114	100	118	130	105	85	108	0
9	✓			114	113	113	108	97	76	78	62	55	58	64	91	85	96	97	97	111	105	99	124	111	113	140	191	100	0
10	✓	✓		207	209	214	195	170	110	86	71	64	67	69	72	75	79	90	86	90	91	101	109	112	110	106	99	112	0
11	✓	✓	✓	92	92	91	84	75	69	61	62	58	62	67	72	73	76	92	80	82	78	74	71	73	78	82	86	76	0
12	✓	✓	✓	83	82	80	72	64	53	56	54	63	76	73	77	80	78	80	84	80	79	64	58	61	64	69	70	71	0
13	✓	✓	✓	68	66	60	64	82	78	64	71	80	84	79	78	75	73	71	69	74	62	46	65	64	63	58	55	69	0
14	✓	✓		52	56	52	57	57	53	55	61	69	74	72	69	69	61	51	22	44	46	39	58	53	34	54	50	54	0
15				Z	N 0	N 37	81	59	96	85	74	65	68	69	62	73	60	Z	Z	Z	-1	N 71	N 74	81	95	96	121		1
16	✓	✓		113	105	101	113	109	84	66	83	82	N 50	92	82	80	91	96	96	94	90	86	82	81	82	79	85	88	1
17	✓	✓	✓	90	95	95	77	69	49	54	59	81	69	69	60	69	64	74	70	73	74	73	64	68	69	69	45	70	0
18	✓	✓		47	51	90	88	78	97	73	56	64	61	68	71	69	72	50	55	75	77	84	84	88	N 80	116	86	74	1
19				—	—	—	—	—	—	—	92	76	73	69	75	77	74	80	89	93	86	83	79	73	77	77	73		0
20	✓	✓	✓	61	57	51	41	38	39	41	43	58	68	82	82	89	93	101	102	114	105	114	105	102	91	79	76	76	0
21				79	76	—	—	—	—	—	59	72	76	86	86	94	94	90	105	113	101	102	95	99	79	73	59		0
22				48	—	—	—	—	—	75	97	97	N 68	84	69	95	77	72	63	62	59	69	93	84	77	82	74		1
23	✓	✓	✓	69	66	71	69	53	47	59	72	82	78	78	77	91	78	87	84	84	102	82	82	93	102	74	83	78	0
24	✓	✓	✓	60	72	64	84	45	35	54	73	70	73	85	73	74	76	70	86	77	87	82	82	89	104	96	88	75	0
25	✓	✓	✓	80	106	105	95	92	71	73	60	67	66	70	73	80	84	81	80	90	85	98	95	86	84	90	95	84	0
26	✓	✓	✓	81	77	105	84	64	76	110	99	90	92	96	91	92	84	98	87	84	81	79	84	83	79	77	88	87	0
27	✓	✓	✓	106	105	105	101	113	90	64	78	87	88	82	89	87	85	85	102	87	85	90	91	90	88	82	79	90	0
28				85	101	87	151	—	—	—	—	60	53	61	50	55	72	77	69	73	69	77	73	75	82	91	79		0
29	✓	✓	✓	78	81	95	90	86	74	85	73	88	88	91	90	106	105	94	105	101	99	101	96	103	108	113	114	94	0
30	✓	✓	✓	105	96	87	97	82	69	56	62	98	95	85	81	87	103	101	107	105	106	114	115	120	119	101	98	95	0
31	✓			87	87	70	49	46	44	55	87	(90)	92	91	104	107	104	100	96	92	92	96	87	127	144	103	123	91	0
MEANS * 22 DAYS				90	92	99	92	84	71	69	69	75	75	78	80	83	85	86	85	88	88	86	87	90	92	90	90	84	
MEANS † 20 DAYS				89	91	94	93	86	72	69	68	75	75	78	78	82	83	85	84	87	86	85	85	87	88	87	83	83	
MEANS ‡ 14 DAYS				80	82	84	81	76	64	66	68	77	79	80	80	84	84	87	88	88	88	85	85	87	88	85	83	81	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⌇ ⌇=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 474

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
								02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	733.9	18.6	73	20.0	13.7	0.18	4.6	NW	3	W	11	SW	13	SW	1	Cu; Nb	7-10	Cu; Nb; ASt	6- 8	Rain
2	735.0	15.0	81	16.7	6.4	0.11	4.0	..	0	WNW	9	W	19	SW	..	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7-10	Rain
3	740.9	12.8	72	16.9	4.6	0.34	6.8	WSW	..	SW	..	SSW	9	SW	1	Cu; CuNb; Nb	10	ASt; Cu	10	Rain in am
4	744.8	15.2	58	21.1	6.6		9.5	..	0	NNE	1	WNW	3	SSW	2	Cu; StCu	7- 8	Cu; StCu	7- 8	Clearing in evening
5	742.0	17.2	60	22.3	4.6		10.9	..	0	..	0	W	6	WSW	2	ASt; Cu	1- 3	ACu; Cu	4- 8	Dew early
6	739.0	11.7	86	15.7	8.5	0.29	4.9	NW	1	S	16	SSW	13	SW	8	ASt; CuNb	7-10	Cu; CuNb	7-10	Rain
7	746.0	11.7	56	15.7	5.8	0.10	10.2	S	2	SSE	8	S	10	S	4	Ci; ACu; ASt; FrCu	3- 8	Ci; ASt; FrCu	6- 8	Clear sky at night
8	749.5	13.3	52	18.3	3.2		11.3	SSE	1	E	8	E	6	SE	4	ACu	1- 3		0	
9	748.7	16.7	44	21.8	5.6		11.5	SE	4	ENE	4	S	5	SW	8		0	Cu	1- 3	Clear at night
10	749.1	18.3	51	22.8	8.4		10.7	SW	3	SSE	10	SSE	6	S	6		0	Cu	1- 6	Dew early
11	748.4	18.9	43	25.6	9.8		11.3	S	4	SE	7	SE	9	S	5	Cu	1- 3		0	
12	748.0	21.9	30	27.0	9.7		11.5	SE	5	ESE	7	ESE	8	SSE	3		0	Cu	1- 3	
13	746.4	22.5	28	28.6	10.2		7.4	ESE	1	E	12	ENE	5	..	0	Ci; CiSt	3- 7	Ci; ASt; Cu; StCu	6- 8	
14	743.2	26.1	22	29.8	13.7		4.0	NNE	1	NE	10	NW	8	WNW	2	CiCu; ACu; StCu	6- 8	ACu; ASt; CuNb	7-10	Rain
15	737.9	23.9	44	27.2	16.0	0.06	2.2	E	2	NE	7	WNW	15	NW	5	ASt; ACu; Cu; CuNb	7-10	Cu; CuNb; Nb	7-10	Light thundershowers
16	737.8	15.2	76	19.8	6.2	0.01	8.2	NW	5	NNW	10	WNW	18	NW	3	ACu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Light rain in am
17	741.6	17.7	56	21.6	6.8	0.05	8.2	WNW	2	WSW	4	WNW	5	WSW	3	ASt; Cu	3- 7	Cu	1- 3	
18	737.1	18.1	72	22.2	6.2		4.9	..	0	NNW	7	NW	20	WNW	11	StCu; CuNb; Cu	10- 6	Cu; CuNb	6- 8	Light rain in pm
19	739.8	16.9	57	19.5	9.1	0.05	8.8	WNW	4	W	12	W	8	W	3	Cu; StCu	6- 8	Cu	6- 1	Clear in evening
20	742.8	17.6	59	23.2	5.3		9.1	NNW	1	WNW	3	W	4	W	2	Cu; StCu	10- 6	Cu	6- 1	Clear in evening
21	740.0	20.0	60	24.6	7.8		10.6	NW	1	WNW	5	WNW	8	W	2	Ci; CiSt; ASt; Cu	6- 9	Cu	6- 1	
22	735.8	20.0	57	19.6	9.7		4.5	NW	2	WNW	15	WSW	12	WSW	1	ACu; StCu; Nb	7- 8	StCu; Nb	6- 3	Rain in late am
23	742.8	15.0	49	20.1	4.8	0.06	9.6	WSW	1	SE	3	WNW	5	WSW	8	ASt; FrCu; StCu	2- 6	CiSt; ACu; ASt	7- 8	
24	745.7	18.3	58	22.9	6.3		8.8	..	0	WNW	2	WSW	6	SW	4	Cu; StCu	7- 8	Cu; StCu	6- 1	Clear sky in evening
25	744.5	23.7	39	30.7	7.4		11.7	SW	1	E	4	N	1	SW	1		0		0	
26	740.3	23.6	50	33.5	8.3		11.8	WSW	1	SSW	2	WNW	2	SW	4		0		0	
27	740.0	24.1	34	29.4	10.4		11.8	WSW	2	W	2	WNW	9	SW	2		0	ACu	0- 1	
28	742.8	16.8	88	22.8	9.2		3.8	WSW	1	SSW	1	WSW	11	WSW	4	Cu; StCu; CuNb	7-10	Cu; StCu	6- 3	Light rain in late am
29	743.0	18.9	46	23.3	6.5	T	11.8	WSW	2	SSE	4	W	5	WSW	3	Cu	1- 4	ACu	4- 6	
30	741.9	18.9	45	23.7	6.3		10.5	W	2	S	2	SW	4	WSW	3	Cu; StCu	3- 6	Cu; StCu	4- 6	Clear at night
31	740.7	19.4	50	23.8	6.0		10.7	..	0	WNW	4	W	14	W	3	FrCu; StCu	4- 7	FrCu; StCu; CuNb	4- 6	Overcast in evening, with some rain
SUM						1.25														
MEAN	742.2	18.3	54	22.9	7.8		8.6		1.7		6.3		8.6		3.6					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 475

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			225	207	190	154	134	159	165	153	154	150	140	122	134	138	147	148	150	153	153	165	180	172	166	174	160	1
2	✓			174	164	276	264	244	243	266	279	194	154	118	129	136	136	147	140	159	135	148	153	134	154	129	129	175	2
3	✓			153	165	172	177	182	183	189	183	180	172	170	172	170	(168	165)	177	180	174	178	188	198	204	228	244	182	1
4	✓	✓	✓	244	267	256	250	258	276	310	302	255	222	212	204	204	196	196	195	190	180	180	192	195	212	213	238	227	0
5	✓	✓	✓	256	240	261	252	180	228	249	256	236	214	192	168	160	165	153	152	159	171	174	186	196	204	196	195	202	0
6	✓			200	225	238	260	230	177	87	159	168	160	153	153	162	165	159	165	165	165	164	138	147	160	153	164	172	1
7	✓	✓		165	165	176	165	162	174	184	170	165	168	165	165	148	140	152	160	168	165	165	176	180	186	189	174	168	1
8	✓	✓		152	146	144	141	159	186	234	278	240	225	202	172	146	135	120	(122)	135	129	136	136	136	135	162	152	163	0
9				—	—	—	—	—	—	—	—	350	327	279	225	195	165	144	126	122	138	148	100	126	134	117	106		0
10	✓	✓		110	110	108	117	135	180	226	270	285	279	250	219	189	(171)	156	160	165	154	141	141	147	150	153	168	174	0
11	✓	✓	✓	184	196	219	250	278	303	312	326	330	314	284	254	210	183	172	164	165	171	172	172	180	186	198	214	227	0
12	✓	✓	✓	224	249	274	300	320	327	352	354	296	230	210	190	180	180	183	188	190	190	195	194	213	230	250	266	241	0
13	✓	✓	✓	297	300	303	290	280	279	270	248	218	207	186	180	180	182	174	186	172	186	210	198	216	231	243	264	229	0
14	✓	✓		303	315	326	314	288	285	285	270	243	230	206	189	184	194	194	204	212	226	238	226	230	255	244	254	246	0
15	✓			200	195	228	180	184	171	165	178	174	172	170	165	156	140	134	96	146	132	140	136	146	146	146	140	160	1
16	✓	✓		146	148	150	156	165	171	190	183	156	141	146	165	153	140	135	132	141	140	138	147	153	166	180	182	155	1
17	✓	✓	✓	182	186	194	192	208	226	260	264	195	190	186	177	174	(171)	162	165	160	160	165	171	180	195	207	238	192	0
18	✓	✓		222	222	153	150	146	177	231	255	189	147	150	147	148	148	152	156	160	162	158	152	152	150	123	123	166	1
19	✓			129	124	128	134	147	154	166	138	138	148	152	148	148	147	150	150	150	147	144	150	174	168	174	178	149	0
20	✓	✓	✓	180	186	210	228	255	279	290	285	182	147	147	153	144	141	136	135	138	135	136	134	144	159	164	171	178	0
21	✓			160	166	178	195	201	207	230	189	134	132	124	124	122	116	120	90	60	111	117	122	120	129	141	150	143	0
22	✓			171	172	135	120	106	112	116	120	130	126	146	148	150	147	147	148	154	159	160	160	165	180	184	200	148	1
23	✓	✓	✓	213	225	225	244	240	279	296	222	194	178	154	146	150	160	165	166	156	135	159	162	158	166	196	195	191	0
24	✓	✓	✓	195	195	207	224	244	256	268	208	180	171	171	170	160	(156)	160	159	160	160	156	162	156	150	159	154	183	0
25	✓	✓	✓	171	165	160	171	178	195	207	244	222	208	195	195	180	177	174	165	160	153	150	147	158	159	165	171	178	0
26	✓	✓	✓	189	208	183	204	231	214	170	170	189	164	154	159	162	162	162	165	165	164	170	154	165	177	182	171	176	0
27	✓	✓	✓	159	153	162	164	154	171	208	183	186	180	165	146	147	144	140	124	144	141	141	144	160	162	165	180	159	0
28	✓			174	168	174	110	153	195	240	195	165	156	177	165	159	156	150	147	147	147	146	141	148	153	166	178	163	0
29	✓	✓	✓	183	180	182	186	183	180	195	210	195	170	171	174	165	154	159	150	150	147	148	148	153	154	165	176	170	0
30	✓	✓	✓	192	222	225	225	236	255	290	279	212	183	172	171	166	165	159	156	152	147	147	150	154	168	177	174	191	0
31				178	180	196	240	255	279	285	180	165	159	152	150	150	(147)	141	141	141	140	138	—	—	—	—	146		0
MEANS * 29 DAYS				191	195	201	201	203	215	229	227	200	184	175	168	162	158	156	154	157	157	160	160	167	175	180	187	182	
MEANS † 20 DAYS				198	204	206	211	215	232	251	249	218	198	186	177	168	163	160	160	162	161	164	165	171	180	187	193	191	
MEANS ‡ 14 DAYS				205	212	219	227	232	248	263	254	221	198	186	178	170	167	164	162	162	160	164	165	173	182	191	200	196	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 476

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			215	193	169	(138	120	141	146	136)	143	135	125	≷138≷	134	134	131	124	131	121	120	114	≷108≷	122	⌈ 62	97⌋	134	1
2	✓			⌊ 82	82⌋	194	203	185	196	218	252	180	153	136	≷146	124	130	155	151	94	114	119	108	134	108	108	107≷	145	2
3	✓			≷ 94	74	60	70	89	94	125≷	142	146	146	147	154	149	147	(158)	146	145	138	130	125	121	116	155	162	126	1
4	✓	✓	✓	168	⌈ 172	167	124	181⌋	231	238	263	213	173	191	185	181	174	169	158	153	149	133	125	133	136	146	178	173	0
5	✓	✓	✓	⌊ 158	174	158	196	106	161	191⌋	204	204	181	169	156	151	152	139	138	146	153	153	149	145	156	147	149	160	0
6	✓			145	148	182	208	≷187	173	294	149≷	146	146	141	143	149	148	≷147≷	143	142	142	129	≷122≷	122	124	120	112	153	1
7	✓	✓		121	120	108	122	112	119	185	142	148	158	153	158	146	138	143	151	155	148	135	131	130	138	136	⌈ 120⌋	136	1
8	✓	✓		⌈ 96	83	83	80	96	108⌋	172	257	233	215	195	171	135	120	117	112	120	116	108	105	96	96	121	114	131	0
9				108	118	125	147	173	208	233	306	334	319	261	206	184	151	133	112	108	121	121	⌈ 89	108	112	94	78⌋		0
10	✓	✓		⌈ 70	67	57	62	85⌋	131	189	268	289	285	260	230	191	167	(149)	149	158	147	126	117	108	115	116	131	153	0
11	✓	✓	✓	146	156	174	224	202	272	282	313	333	324	291	242	209	179	165	160	159	165	158	146	153	159	169	175	209	0
12	✓	✓	✓	181	210	243	268	278	293	327	354	294	227	215	196	188	184	185	179	182	182	178	166	181	195	195	224	222	0
13	✓	✓	✓	250	200	261	247	238	238	241	230	208	182	179	171	176	169	161	169	158	160	176	138	180	181	215	219	200	0
14	✓	✓		248	286	284	278	263	268	263	253	251	241	227	199	203	206	193	208	205	≷204	219	201	213	233	227	240≷	234	0
15	✓			≷227	215	206	159	187≷	151	145	158	167	175	165	168	160	136	≷121	138	114	146	126	133≷	134	121	125	119	154	1
16	✓	✓		116	121	121	121	124	146	178	176	151	≷146	136≷	156	151	134	126	121	122	122	122	122	122	134	139	146	148	137	1
17	✓	✓	✓	155	145	146	149	160	197	210	232	178	162	162	161	153	147	(138)	134	131	130	125	134	149	153	154	⌈ 181⌋	157	0
18	✓	✓		⌈ 193	165	119	121	130	143	203⌋	231	184	158	149	142	143	145	158	153	155	148	142	146	136	131	99	98	150	1
19	✓			106	93	94	99	108	131	134	116	121	134	139	134	136	134	133	124	120	121	111	111	131	131	130	136	122	0
20	✓	✓	✓	149	147	161	193	206	237	253	254	168	142	126	129	122	116	112	112	108	105	96	96	96	112	125	134	146	0
21	✓			130	125	126	153	168	204	204	181	129	119	106	99	106	103	101	⌈ 67	43	82⌋	87	89	83	99	111	122	118	0
22	✓			146	146	108	96	87	88	96	101	110	≷117≷	134	≷143≷	138	138	134	130	134	138	134	126	124	131	134	165	125	1
23	✓	✓	✓	174	191	169	189	193	217	231	202	175	169	146	134	131	151	149	147	138	110	131	134	131	122	129	124	158	0
24	✓	✓	✓	118	139	171	191	181	209	215	174	158	158	158	160	162	160	(158)	146	142	133	121	121	131	117	99	112	151	0
25	✓	✓	✓	105	94	103	118	131	148	167	217	205	201	189	174	167	155	152	146	148	143	126	120	121	130	133	130	147	0
26	✓	✓	✓	153	141	141	165	179	192	135	149	168	138	130	134	135	143	149	148	146	142	133	129	134	151	147	142	147	0
27	✓	✓	✓	110	107	108	120	116	125	169	151	151	165	153	138	141	138	136	⌈ 112	131⌋	129	120	121	117	110	116	129	130	0
28	✓			135	118	⌈ 118	70	110	140⌋	208	162	154	156	165	167	162	151	136	135	122	129	119	114	112	114	108	142	135	0
29	✓	✓	✓	146	148	138	142	146	155	161	200	192	169	162	162	149	139	141	138	131	125	119	119	114	103	103	103	142	0
30	✓	✓	✓	131	159	169	165	185	188	233	241	184	168	169	166	155	142	136	136	131	125	110	111	115	116	121	129	154	0
31				142	139	⌈ 149	181	233	239	238	167⌋	146	146	151	142	149	143	(131)	125	121	114	108	101	87	102	99	102		0
MEANS * 29 DAYS				147	147	149	154	159	176	198	203	186	174	166	161	153	148	145	141	137	137	131	127	131	133	135	143	153	
MEANS † 20 DAYS				149	154	154	163	169	189	209	225	204	188	178	168	159	153	149	146	146	142	137	132	136	140	142	149	162	
MEANS ‡ 14 DAYS				153	160	165	178	183	204	218	227	202	183	174	165	159	154	149	144	143	139	134	129	136	139	143	152	164	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 477

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		121	121	123	114	107	83	104	87	85	80	88	87	89	86	98	97	118	116	116	117	104	108	128	155	106	0
2	✓	✓		171	168	146	132	110	81	77	73	68	71	80	83	86	84	80	86	87	88	95	96	93	109	116	107	99	0
3	✓	✓	✓	114	111	114	84	67	54	53	54	57	71	78	89	81	85	85	85	84	83	79	94	105	105	114	138	87	0
4	✓	✓	✓	149	139	136	107	72	50	61	75	80	73	68	76	73	72	69	81	62	68	52	56	74	101	104	108	84	0
5	✓	✓	✓	108	111	137	136	140	119	113	99	65	59	61	62	66	77	77	84	78	77	86	87	99	116	125	94	95	0
6	✓	✓		95	[130	338	324	389	231	99]	72	64	60	60	60	68	77	78	89	86	85	88	97	102	118	113	126	127	0
7	✓	✓	✓	136	147	147	151	145	137	127	107	75	74	76	78	78	75	73	75	74	71	69	71	73	78	81	77	96	0
8	✓	✓	✓	80	86	81	74	73	74	67	59	59	53	62	61	65	67	65	71	75	67	60	72	77	76	70	72	69	0
9				64	89	72	72	54	55	—	54	—	—	66	67	78	81}	Z	166	−1	Z	68	63	N 44	77	Z	Z}		1
10	✓	✓	✓	69	74	73	71	66	56	50	52	55	66	72	66	73	75	77	71	69	63	67	64	65	62	62	64	66	0
11				72	64	52	54	53	50	45	36	46	58	55	63	58	61}	Z	Z	Z	Z}	67	75	77	73	69	84		2
12				73	77	90	75	61	47	61	66	58	61}	77	76}	74	75	68}	Z	Z	59}	61	62	59	75	55	47		1
13				N 39	54	N 42	62	46	Z	Z	Z	63}	47	39	52	60	64	72	84}	Z}	78	70	87	80	82	81	72		1
14	✓	✓	✓	78	90	91	90	93	67	64	63	68	54	71	69	64	61	53	52	56	71	80	83	83	89	94	101	74	0
15	✓			117	113	110	110	95	84	81	80	73	67	78	77	86	83	83	84	89	94	99	104	[127	145	159	140]	99	0
16	✓	✓	✓	86	78	71	61	58	50	50	66	64	67	68	69	69	70	80	81	82	84	97	108	86	89	99	97	76	0
17	✓	✓	✓	84	80	67	67	64	60	58	62	57	58	68	68	75	77	69	66	68	64	73	76	74	77	93	72	70	0
18	✓	✓	✓	65	58	67	73	72	68	60	60	56	62	57	68	67	64	67	66	66	60	67	50	61	67	55	72	64	0
19	✓	✓		71	73	61	67	66	59	63	63	54	60	57	59	64	61}	55	N 41	58}	90	95	89	100	[118	149	122]	75	1
20				[128	104]	—	—	—	—	—	—	98	89	96	86	94}	77	60}	86	94}	89}	98	[108	115	—	—	113]		1
21	✓			[123	131	147	151	133]	103	99	81	94	88	88	89	84	89	89	91	96	89	88	92	99	106	[108	117]	103	0
22	✓	✓		[159	156	160	153	146	119]	71	52	52	51	63	63	75	72	75	85	91	87	[138	181	137	137	161	168]	110	0
23	✓	✓		[154	161	163	154	145	110]	68	47	48	52	66	67	77	77	70	94	80	73	77	86	[99	130	148	146]	100	0
24				[139	141	147	—	—	—	126]	86	72	67	56	62	69	80	69	86	90	92	86	96	115	[143]	(149)	[154]		0
25	✓	✓		[177	175	208	194	127]	99	89	77	86	89	89	92	94	90	89	99	101	91	100	104	[113	115	122	131]	115	0
26	✓			[136	112]	99	94	91	84	91	85	101	104	101	92	88	86	95	97	98	97	[118	120	130	146	158	174]	108	0
27	✓			[187	182	153	110]	82	67	66	64	61	72	76	85	87	85	85	81	85	87	92	104	114	120	136	135]	101	0
28	✓			127	123	107	85	70	67	68	57	52	50	50	61	65	77	82	81	77	78	85	93	100	95	91	81	80	0
29				74	85}	Z	Z	Z	217	Z	N 54}	81	47	61	60	50	71	76	85	99	112	122	113	110	83	65}	Z}		2
30				Z}	104	104	91	91	77	73	48	58}	−58	N 49	N 27	Z	Z	Z	Z	Z	Z	127	Z	Z}	88	58	72		2
31																													
MEANS * 22 DAYS				118	119	127	118	110	87	76	70	67	67	72	74	76	77	77	80	81	81	87	93	96	105	113	114	91	
MEANS † 17 DAYS				113	115	128	121	114	89	75	69	64	65	70	72	74	75	74	78	79	79	85	90	91	100	108	109	89	
MEANS ‡ 10 DAYS				97	97	98	91	85	74	70	70	64	64	68	71	71	72	72	73	71	71	73	76	80	86	90	90	78	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER }=DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 478

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
								02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	744.8	15.3	63	19.9	7.7	0.01	7.3	W	3	SSW	7	SSW	7	SW	8	Cu; FrCu; CuNb	7-10	Cu; CuNb	6- 3	
2	746.2	16.1	58	22.9	5.5		11.7	SSW	4	SE	17	SE	9	S	5	Ci; CiSt; Cu	3- 6		0	
3	743.3	21.7	44	27.8	6.9		11.6	SSW	3	ESE	14	ESE	7	S	5		0		0	
4	741.8	25.8	51	31.3	10.8		10.8	SSW	2	E	6	ESE	5	SSW	8	CiCu; ACu	1- 3	ACu	1- 3	Clear in evening
5	741.1	25.6	34	31.6	12.5		11.8	SSW	3	S	5	SW	7	SW	8	Ci; CiSt; ACu	1- 3		0	
6	740.7	21.8	55	30.2	13.4		11.1	SSW	3	SSW	5	SW	7	SW	10	Cu	1- 3	Cu	1- 3	
7	742.7	21.1	61	27.8	11.3		12.1	SW	7	S	14	SSE	16	S	7	Cu; StCu	1- 6	ASt; Cu	6- 3	Clear in evening
8	743.8	22.9	42	33.3	13.3		11.8	SSE	12	ESE	12	ESE	6	SSE	6	CiSt	0- 1	Cu	1- 3	Clear in evening
9	742.8	30.6	24	36.8	19.0		5.8	E	3	E	7	NW	5	V	1	ACu; ASt; Cu	4- 8	CuNb; Nb	7-10	Thunder in pm, few drops rain in evening
10	741.6	34.2	17	38.4	17.2	T	8.1	..	0	ENE	8	NW	3	S	4	CiSt; ASt; StCu	4- 6	ACu; StCu	3- 6	
11	741.3	34.9	11	38.9	18.0		7.9	SSW	3	NE	9	SE	2	SW	3	CiSt; ACu; Cu	1- 3	CuNb; Nb	4- 6	Rain in nearby districts in pm
12	740.0	34.7	12	39.3	17.2		9.1	SSW	3	ENE	8	NW	3	WSW	2	CiSt; Cu	1- 3	ACu; ASt; CuNb	4- 6	Lightning and thunder in pm
13	738.7	26.7	38	31.9	18.6	0.03	5.9	NW	4	SSE	6	SSW	12	SSE	13	CiSt; ACu; ASt; Cu	6- 8	CiSt; ASt	7-10	Showers in early hours; lightning in evening
14	741.8	16.7	65	19.6	15.1		1.7	SSE	19	SSE	20	SSE	17	SSE	15	ASt; StCu; CuNb	7-10	Cu; StCu	10- 6	Lightning in E in evening; clear at night
15	743.3	16.6	48	22.4	8.0		12.2	SSE	13	SSE	17	S	11	SW	7	Cu; StCu	2-10	Cu; StCu	10- 3	Lightning in E in evening
16	744.8	16.1	44	23.3	7.4		12.0	SSE	4	SSE	12	SSE	11	SSE	4	ACu	0- 1	ACu	0- 1	
17	745.3	20.6	39	26.7	10.7		11.8	SSE	7	ESE	11	ESE	10	SE	4		0		0	Thin haze over part of sky
18	744.2	23.0	28	31.1	14.4		12.1	ESE	6	E	10	E	8	..	0		0		0	Smoke in W in evening
19	740.1	28.9	16	36.6	16.7		10.8	E	5	ENE	17	N	11	..	0	Ci; CiSt; Cu	6- 8	Cu	6- 3	
20	740.1	20.6	61	23.1	16.2		5.4	WNW	2	WNW	12	WNW	12	WSW	4	Cu; StCu; CuNb	6- 9	Ci; Cu	6- 3	
21	743.3	18.4	56	24.7	7.5	0.02	11.1	WSW	3	SSW	7	SSW	5	SW	7	StCu; CuNb	7-10	StCu	6- 3	Light rain in early am
22	741.1	23.6	32	29.5	9.0		12.1	SSW	2	ESE	5	SSW	3	SW	7		0		0	
23	739.4	28.8	22	35.3	10.8		11.6	SSW	3	ENE	6	ENE	1	SW	5		0	ACu; Cu	1- 6	Fire in NW at 15h
24	737.4	26.7	40	33.0	15.6		10.3	WSW	8	SSW	6	SW	8	WSW	8	ACu; ASt; Cu	4- 8	Ci; Cu	4- 6	Lightning in E in evening; clear at night
25	737.4	22.5	56	27.3	12.8		11.4	WSW	2	SSW	7	WSW	12	SW	11	Ci; CiSt; ACu; Cu	3- 6	CiSt; Cu	4- 6	
26	740.2	20.0	53	26.9	11.4		12.2	SSE	8	SSE	15	SSE	12	SSW	8	Ci; CiSt; ACu	2- 6	Ci; CiCu	3- 6	
27	740.6	24.6	39	28.7	11.1		9.6	SW	5	SE	6	SSE	7	SW	7	Ci; CiSt	3- 6	CiCu; ASt; ACu	7-10	Overcast in evening
28	739.6	24.0	37	30.2	14.0		4.7	SSW	4	SE	7	SSE	5	SSE	14	ACu; ASt	6- 8	ACu; ASt	6- 8	
29	738.2	20.7	60	27.8	14.3	0.03	8.8	S	15	SSE	20	SE	17	SE	19	Ci; ACu; ASt	3- 6	ACu; StCu; CuNb	7-10	Rain in early hours; lightning in early am and evening
30	737.5	21.7	55	21.7	18.7		0.5	ESE	17	ESE	15	SE	10	SE	12	ACu; ASt; StCu; CuNb	7-10	CuNb; Nb	7-10	Rain during day and evening
31																				
SUM						0.09														
MEAN	741.4	23.5	42	29.3	12.8		9.4		5.8		10.4		8.3		7.1					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 479

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		154	155	166	174	182	198	193	171	173	173	163	154	157	173	171	155	126	110	127	141	160	157	157	141	160	0
2	✓	✓		135	138	141	155	195	240	273	279	254	218	204	190	182	179	176	173	166	171	157	160	173	179	168	176	187	0
3	✓	✓	✓	173	179	204	248	301	355	391	366	316	264	229	198	188	182	176	174	177	173	160	157	154	163	165	151	218	0
4	✓	✓	✓	146	155	163	201	256	309	297	226	209	185	182	170	168	171	163	165	160	151	130	160	151	135	140	140	181	0
5	✓	✓	✓	148	148	138	138	130	129	141	146	188	201	185	173	174	166	154	151	143	143	146	143	143	135	140	141	152	0
6	✓	✓		124	[119	49	57	63	88	122]	179	199	210	206	198	181	184	174	174	166	160	152	137	127	135	137	137	145	0
7	✓	✓	✓	126	121	116	115	110	108	115	146	181	182	173	160	157	(152)	135	116	124	126	146	163	179	187	190	201	147	0
8	✓	✓	✓	204	212	210	226	237	229	237	259	242	239	232	218	206	204	182	182	177	173	173	170	193	214	221	256	212	0
9	✓			283	264	268	257	267	265	254	248	218	210	203	198	195	188	168	157	{154}	168	157	184	173	188	{159	188}	209	1
10	✓	✓	✓	214	199	206	218	225	237	283	267	236	188	160	168	166	162	141	133	146	148	157	170	182	193	204	207	192	0
11	✓			199	196	196	201	207	217	276	319	237	185	173	162	157	154	{126	17	124}	170	146	151	173	192	188	192	182	2
12	✓			192	176	163	170	210	223	234	198	204	174	{63	78}	141	146	143	{99	100}	137	144	173	185	182	221	232	166	1
13	✓			204	207	190	174	{223	209	144	188}	226	203	204	188	173	[157	110	94	75	74	75	97]	141	148	157	171	160	1
14	✓	✓	✓	176	193	185	173	173	170	171	160	157	151	148	144	132	(132)	141	138	133	135	137	141	160	171	176	182	157	0
15				179	179	173	171	174	182	188	179	160	146	127	[111	105	94	83	78	75	78	82	89	97	99	104	135]		0
16	✓	✓	✓	210	240	245	248	251	256	254	236	201	170	146	127	121	118	113	110	102	99	104	110	143	155	160	174	171	0
17	✓	✓	✓	220	236	267	276	259	253	267	262	246	226	201	188	179	173	173	160	159	154	157	154	162	166	188	231	207	0
18	✓	✓	✓	245	243	242	234	232	223	221	214	210	201	176	176	179	176	166	163	148	151	157	173	[188	198	242]	220	199	0
19	✓	✓		228	221	214	210	215	221	210	181	157	154	141	138	137	135	126	{33}	121	126	141	144	160	[146	127	124]	159	1
20	✓			[126	132	126	115	108	119	105	99	107	99]	110	116	116	116	122	115	110	111	107	115	126	132	130	130	116	1
21				—	—	—	—	—	—	—	—	—	144	143	151	148	(144)	144	141	129	126	124	127	124	126	[126	116]		0
22	✓	✓		[110	110	104	104	110	141]	250	330	323	295	251	204	188	170	144	126	110	122	[97	72	110	116	102	107]	158	0
23	✓	✓		[105	97	96	99	115	132]	204	286	268	232	206	181	173	173	171	159	163	179	188	173	[154	126	110	115]	163	0
24	✓			[126	121	113	113	102	94	122]	171	204	220	210	209	190	173	166	154	152	146	137	141	137	[126	111	110]	148	0
25	✓	✓		[104	99	107	129	160]	182	190	203	199	203	190	184	171	157	157	132	110	133	133	138	141	135	141	(146)	152	0
26				—	—	—	—	—	—	—	—	—	—	118	108	105	107	110	107	105	104	108	124	126	126	[116	110]		0
27				[110	110	126	154]	201	236	253	253	259	240	192	173	155	155	143	148	146	141	129	129	135	140	122	126		0
28				129	127	157	220	267	268	267	287	298	297	278	256	236	(209)	177	168	160	154	157	154	141	146	173	195		0
29				204	195	193	{126	118	168	124	196}	174	157	154	146	124	107	110	107	111	116	126	141	162	198	214	229		2
30	✓			{206}	220	195	173	182	181	209	204	201	188	198	188	{143	162	195	207	89}	154	179	{75	107}	214	217	220	179	2
31																													
MEANS * 24 DAYS				173	174	171	175	188	199	215	222	215	199	181	171	166	163	154	137	135	142	142	143	155	162	165	170	172	
MEANS † 17 DAYS				166	169	168	177	189	204	225	230	221	205	188	175	168	165	157	144	143	144	145	147	158	159	163	168	174	
MEANS ‡ 10 DAYS				186	193	198	208	217	227	238	228	219	201	183	172	167	164	154	149	147	145	147	154	166	172	183	190	184	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION { }=DISTURBED BY BAD WEATHER

TABLE 480

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		106	108	106	114	128	163	156	154	161	168	172	158	159	171	166	143	116	97	116	121	133	129	120	102	136	0
2	✓	✓		94	89	89	113	152	207	269	283	267	234	218	201	193	186	181	173	166	163	144	143	146	140	140	147	172	0
3	✓	✓	✓	143	144	153	196	272	332	377	366	309	267	246	221	201	182	173	171	173	168	146	129	123	140	132	117	203	0
4	✓	✓	✓	109	106	117	147	213	267	260	212	196	181	178	171	169	166	163	151	156	135	128	159	144	121	127	120	162	0
5	✓	✓	✓	116	120	105	101	104	116	119	128	183	201	186	174	174	163	154	143	140	133	135	129	124	110	102	116	136	0
6	✓	✓		102	[76	27	30	36	60	110]	171	205	213	205	198	176	173	168	169	158	157	143	127	120	116	116	113	132	0
7	✓	✓	✓	102	95	91	79	79	86	102	142	185	190	178	173	171	163	(138)	116	120	120	133	167	161	178	192	203	140	0
8	✓	✓	✓	206	203	210	223	236	223	234	252	255	247	241	230	223	(211)	191	176	172	171	159	146	168	182	200	210	207	0
9	✓			239	222	230	[193]	232	246	238	239	208	197	188	190	188	171	≷140	121	156	83≶	140	≷153	147	152	173≶	197	185	1
10	✓	✓	✓	180	163	181	183	198	221	265	277	247	186	168	183	181	161	140	133	146	146	146	154	143	168	191	186	181	0
11	✓			178	185	183	180	188	208	256	313	241	187	188	169	151	143	162	156	≷ 60	117≶	142	131	153	159	163	163	174	2
12	✓			168	157	143	159	196	213	198	173	185	159	≷ 60	64≶	140	146	138	≷148	104≶	131	133	153	158	161	198	206	154	1
13	✓			198	186	181	161	≷213	162	240	206≶	215	210	216	192	171	[161	102	78	75	63	74	90]	138	138	153	168	158	1
14	✓	✓	✓	173	188	181	168	168	168	173	174	168	168	157	154	139	156	(163)	147	140	143	143	147	163	171	169	166	162	0
15				161	167	172	166	—	—	—	128	173	163	129	—	—	—	—	—	—	—	—	—	—	—	—	[91]		0
16	✓	✓	✓	174	203	210	218	228	230	254	243	215	185	148	124	116	110	104	98	94	93	97	101	116	114	116	138	155	0
17	✓	✓	✓	181	213	243	260	245	245	265	266	254	234	207	195	183	176	173	161	153	147	148	143	143	151	163	213	198	0
18	✓	✓	✓	230	235	229	208	207	211	213	206	210	200	193	182	185	176	162	153	143	143	142	171	[158	151	210]	201	188	0
19	✓	✓		206	196	197	195	197	210	205	172	151	156	144	131	138	140	128	≷ 30≶	121	120	124	140	120	[113	93	95]	147	1
20	✓			[85	89	89	89	93]	102	105	98	102	102	106	116	116	119	129	114	106	113	102	[101	97	93	89	91]	102	1
21				[97	90	89	93	99]	123	132	159	142	140	146	147	148	144	(120)	129	121	114	120	117	110	106	[102	95]		0
22	✓	✓		[78	69	72	66	64	93]	227	326	325	313	255	213	178	161	133	108	94	106	[83	58	95	97	87	79]	141	0
23	✓	✓		[79	75	75	75	79	116]	200	293	281	247	206	181	168	168	163	153	163	178	185	163	[138	102	89	90]	153	0
24	✓			[101	101	91	106	87	76	101]	(138)	206	217	211	210	190	171	161	148	143	140	129	129	119	[109	99	90]	136	0
25	✓	✓		[76	66	57	80	124]	156	183	203	193	197	193	181	167	154	153	124	102	124	123	129	[123	121	116	106]	135	0
26				[102	140]	172	168	168	168	181	181	168	143	124	105	98	97	93	91	90	93	90	109	109	102	[93	75]		0
27				[64	56	78	116]	158	207	246	257	265	238	187	162	146	140	[114]	—	—	—	—	—	114	121	102	102		0
28				91	89	116	180	—	—	—	—	—	289	290	262	240	198	(181)	159	147	146	148	151	140	142	168	190		0
29				193	177	≷124≶	—	—	—	—	—	185	154	154	154	129	106	106	102	116	113	114	129	159	188	207	≷188≶		2
30	✓			≷207≶	208	181	169	176	193	203	210	205	217	207	205	≷169	119	156	34	181	140≶	168	≷203	181≶	206	198	203	181	2
31																													
MEANS * 24 DAYS				147	146	143	146	163	179	206	219	215	203	186	176	169	160	152	131	133	130	133	137	138	138	143	147	160	
MEANS † 17 DAYS				139	138	138	144	161	183	212	228	224	211	194	181	172	166	156	138	139	138	135	137	136	136	139	141	162	
MEANS ‡ 10 DAYS				161	167	172	178	195	210	226	227	222	206	190	181	174	166	156	145	144	140	138	145	144	149	160	167	173	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 481

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		69	78	83	68	72	64	63	57	53	49	52	80	87	89	97	108	107	117	108	105	112	118	126	⌈148⌋	88	0
2	✓			⌈157	139	83	123	113⌋	81	94	97	89	84	78	80	78	82	90	92	97	99	101	107	118	118	118	137	102	0
3	✓	✓	✓	137	147	126	111	104	81	101	98	90	89	96	90	95	99	100	110	108	109	114	112	118	118	130	137	109	0
4	✓	✓	✓	127	115	113	105	80	74	79	79	78	75	74	79	96	102	99	101	100	92	99	109	119	⌈133	137	154⌋	101	0
5	✓	✓		⌈163	170	178	179	137⌋	81	50	50	48	50	67	71	74	80	86	83	86	100	103	97	⌈112	125	147	147⌋	104	0
6	✓	✓	✓	⌈118	135	122	119	117	109⌋	90	94	85	86	83	90	90	103	113	108	113	108	116	134	133	133	(127)	140	111	0
7	✓	✓	✓	131	127	112	126	127	115	100	87	85	80	76	94	95	112	127	119	117	123	142	143	137	127	131	136	115	0
8	✓			⌈149	165	180	165	165	137⌋	104	75	56	52	54	67	72	77	80	80	83	89	⌈131	134	128	158⌋	112	96	109	0
9			✓	104	104	90	54	—	—	—	95	112	91	90	89	108	109	113	113	107	108	108	108	107	119	127	115		0
10	✓	✓		121	130	131	111	84	71	76	75	63	69	68	80	79	85	95	97	101	109	113	⌈145	132	142	158	174⌋	105	0
11	✓	✓		⌈167	164	177	172	146⌋	113	102	95	84	83	89	86	86	92	94	86	87	⌈104	112	124	140	180	150	29	115	1
12	✓	✓		60	83	86	91	84	77	79	81	78	82	84	77	85	84	87	89	90	97	114	126	133	⌈167	166	168⌋	99	0
13	✓	✓		⌈167	127⌋	94	85	85	88	87	87	88	85	84	90	90	99	97	90	91	100	112	⌈149	145	135	157	180⌋	109	0
14	✓			⌈156⌋	62	67	49	41	53	80	72	72	74	78	84	85	95	85	86	86	83	⌈107	113	131	138	163	149⌋	92	0
15	✓	✓	✓	⌈109⌋	89	90	89	81	81	79	68	68	62	71	77	90	83	86	⌈95⌋	89	92	99	109	112	96	102	90	88	0
16	✓	✓	✓	85	88	89	94	87	75	74	72	72	74	75	86	81	82	81	78	78	78	76	61	59	59	54	75	76	0
17	✓	✓	✓	67	63	71	N 67	63	63	47	56	46	42	52	50	50	62	55	51	60	49	58	52	54	59	48	72	57	1
18	✓	✓		63	68	71	58	50	42	40	42	50	54	56	52	52	52	47	52	48	51	49	58	61	64	67	N 41	54	1
19				N 19	54	Z	Z	58	63	67	44	⌈N 54	18	N 13	N 25	30	36	42	39	30	39	54⌋	65	71	74	[59	50		1
20	✓	✓		[63⌋	94	118	135	125	108⌋	88	76	60	⌈N 8	N 4	N 44	N 52	N 67⌋	76	85	73	62	50	75	84	94	98	86	76	1
21			✓	74	72	68	63	67	63	77	77	73	75	77	73	72	72	70	100	Z	N 82	81	−22	Z	69	Z	72		1
22	✓			81	68	58	63	57	53	54	65	77	75	78	91	91	84	82	72	[85⌋	80	67	77	82	89	⌈106	91⌋	76	0
23	✓			⌈114	79⌋	67	77	79	71	63	59	61	60	65	64	[73	59⌋	58	55	63	69	77	79	80	⌈95	118	123⌋	75	0
24	✓			⌈107	130	149	167	166	195	216	140	128	117	115	104	100	109	131	140	170	141	122	132	141	143	148	145⌋	140	0
25	✓	✓		⌈134	153	139	199	288	306	230⌋	104	92	87	94	113	104	103	(114	113	112	108)	118	⌈140	171	199	180	166⌋	149	0
26	✓			⌈141⌋	105	91	117	⌈135	112	170⌋	101	103	89	86	96	95	91	99	97	108	113	119	126	132	140	152	148	115	0
27				137	142	123	123	113	112	97	94	86	89	88	95	Z+	105	N 2	N 76	125	117	129	130	95	104	⌈113	112⌋		1
28	✓	✓		⌈147	176	194	194	149⌋	126	113	98	104	99	97	104	109	102	104	103	105	112	117	127	⌈152	168	184	198⌋	133	0
29	✓	✓		⌈170	158	138⌋	94	81	85	85	79	67	67	64	57	67	69	70	80	76	79	⌈104	150	181	137	168	206⌋	106	0
30	✓	✓		⌈194	161	136	146	145	134⌋	83	52	46	44	53	47	52	64	70	78	⌈90	105	122	144	138	149	127	153⌋	106	0
31				⌈189	122	104	131⌋	106	85	95	96	85	74	70	85	Z	Z	−1	103	N 23	N 20	97	137	87	−57	N 4	73		2
MEANS * 26 DAYS				123	118	114	116	110	100	94	79	75	71	73	79	82	86	89	90	93	95	102	113	119	126	130	130	100	
MEANS † 19 DAYS				121	122	119	118	111	100	88	76	71	68	70	77	81	86	89	91	91	94	101	114	121	126	129	132	100	
MEANS ‡ 9 DAYS				108	107	102	98	90	81	80	78	73	72	75	80	83	89	92	94	93	91	96	100	102	104	106	112	92	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 482

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1933

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	734.4	21.4	75	28.3	15.8	0.23	6.6	ESE	5	E	4	WNW	7	WSW	2	StCu	7-10	Cu; StCu	6- 3	
2	736.1	21.4	64	26.9	15.5		10.2	W	1	NW	3	WNW	9	W	4	FrCu; Cu	6- 8	Cu	8- 3	
3	738.3	20.6	72	25.1	15.3	T	9.7	W	1	WSW	7	WSW	11	SW	7	FrCu; StCu; Nb	7- 8	FrCu; StCu	7- 8	Cleared somewhat in evening
4	741.0	19.4	50	27.7	9.9		12.7	SW	4	S	11	S	4	SW	6	Cu	1- 3	ACu	1- 3	
5	737.5	26.1	32	33.7	11.7		12.6	SW	2	ESE	6	W	12	SW	9	ACu	1- 3	ACu; ASt	4- 6	
6	738.6	20.6	55	25.7	14.8		10.1	SW	5	SSW	7	SW	8	SW	6	Cu; StCu	10- 4	Cu; StCu	3- 6	
7	739.5	19.6	50	28.9	8.7		12.7	SW	2	SSW	8	SSW	3	SW	5	Ci; CiSt; StCu	1- 3	Ci; CiSt	1- 3	Smoky in am
8	737.1	25.7	35	34.2	10.6		12.7	SW	1	S	3	WSW	6	SW	8		0	Cu	1- 3	Smoky to E
9	740.6	22.8	47	27.7	14.5		12.1	SW	12	SSW	10	SSW	10	SW	8	Ci; Cu; StCu	3- 8	Ci; ACu	6- 4	Clear sky in evening
10	743.0	23.2	37	30.3	12.2		12.8	SSW	6	SE	11	SSE	7	SSW	7		0		0	
11	741.3	22.2	41	31.8	12.7		12.7	SSW	4	SSE	12	S	5	SW	6		0		0	
12	743.1	22.6	42	31.2	15.5		12.3	SSE	14	SE	16	SE	8	SSW	4		0	Cu	1- 3	Cloudless at night
13	744.4	22.8	34	30.3	14.8		12.4	SSE	7	SSE	11	S	7	SSW	6		0	Cu	1- 3	Cloudless at night
14	743.4	25.6	35	31.1	13.5		12.8	SSW	3	SSE	12	SSE	9	SW	6	Cu	0- 1		0	
15	742.3	27.2	35	33.3	16.5		12.5	SSE	10	ESE	11	SE	8	SE	5	Ci; Cu	0- 1		0	
16	742.2	28.8	17	34.6	20.5		10.7	ESE	9	E	14	E	7	ESE	1	Ci; CiSt	4- 6	Cu; StCu	7-10	
17	740.5	28.3	20	31.7	24.3		1.6	E	3	ENE	8	NNE	5	SSW	4	CiSt; ACu; Cu; Nb	7- 9	Ci; CiSt; ASt	6- 3	
18	740.0	31.7	21	37.2	16.6		11.6	SSW	3	SE	14	S	4	SSE	12	Ci; CiSt; ACu	3- 6	CiSt; ACu; ASt	3- 8	
19	738.8	24.4	41	35.2	17.0		8.9	SSE	16	SSE	19	SSE	18	SE	13	Ci; CiSt; ACu; ASt	4- 8	Ci; CiSt; ACu; ASt	7- 8	
20	739.2	31.7	25	41.1	19.0		10.1	SSE	9	SE	14	E	12	E	9	Ci; CiSt; ACu; ASt	4- 7	ACu; ASt	7- 8	
21	738.9	33.6	18	41.1	20.7		7.1	SE	5	E	14	ENE	8	WSW	2	Ci; ACu; ASt	4- 7	Cu; CuNb	7-10	Lightning in E in pm
22	739.6	32.2	18	39.8	18.7		11.4	ESE	2	E	12	ENE	6	SW	3	ACu; ASt	1- 3	ACu; Cu	4- 6	Clear at night
23	737.2	33.8	14	41.4	21.6		11.3	ENE	2	ENE	12	N	10	SW	5	ACu; ASt	1- 3	ACu	1- 3	
24	737.1	26.1	59	35.7	16.1		7.3	WSW	6	WSW	5	W	7	WSW	6	CiCu; ACu; ASt	6-10	CiSt; CiCu; ACu	4- 6	
25	737.0	25.3	48	36.1	16.3		12.3	W	1	S	6	WSW	4	W	5	ACu; ASt	2- 6	ACu; ASt	4- 6	
26	737.4	27.2	50	35.7	13.6		12.0	W	4	SSW	5	WSW	8	WSW	3		0		0	
27	739.6	23.3	53	25.7	17.7		8.9	WSW	10	SW	16	WSW	14	SW	9	ACu; ASt; Cu	4- 8	Ci; CiCu; StCu; Nb	3- 6	Few drops rain in pm
28	742.6	20.3	44	29.7	12.1		12.8	SW	7	SSE	15	S	10	SW	5		0	Ci; CiSt	1- 3	Dust in air at 9h
29	740.7	25.7	33	35.2	13.9		12.8	SW	3	SE	7	SW	3	SW	7		0		0	
30	738.6	30.7	20	39.1	15.2		12.8	SW	2	SSE	4	..	2	WSW	9		0	CiCu; Cu	1- 3	
31	739.7	24.0	37	26.8	20.5		0.0	SSE	13	SE	3	E	1	S	4	ACu; Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Steady rain in pm
SUM						0.23														
MEAN	739.7	25.4	39	32.7	15.7		10.5		5.5		9.7		7.5		6.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 483

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1933

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓		222	214	221	222	227	221	221	214	203	187	187	180	177	175	177	164	158	158	156	156	175	175	175	[145]	188	0
2				[138	138	159	135	158]	175	166	161	161	164	163	158	156	151	151	156	158	164	166	174	172	164	163	158		0
3	✓	✓	✓	(161	164)	167	177	185	184	167	164	179	172	161	150	148	150	148	147	145	142	135	132	143	142	140	140	156	0
4	✓	✓	✓	147	151	158	143	150	175	179	171	164	164	158	161	129	111	95	89	106	113	121	129	126	124	126	[113]	138	0
5	✓	✓		[111	109	106	114	145]	216	320	322	301	272	240	196	187	(182)	182	187	192	167	184	175	[150	134	132	116]	185	0
6	✓	✓	✓	[126	129	138	145	142	145]	147	147	158	164	174	171	172	164	151	153	150	148	143	142	158	150	145	151	151	0
7	✓	✓	✓	159	156	161	158	159	159	171	187	196	198	200	196	192	187	161	159	161	[145	111	111	126	137]	145	147	162	0
8				145	138	137	137	138	148	179	242	279	306	304	261	229	219	203	193	182	167	[95	111	145	108]	156	164		0
9	✓			164	151	155	155	150	158	158	159	163	164	164	156	147	147	143	134	135	140	150	145	140	129	127	119	148	0
10	✓	✓		124	121	127	147	184	193	211	214	214	219	208	184	164	159	150	143	140	135	129	[106	124	126	119	129]	157	0
11	✓	✓		[129	127	124	129	145]	175	193	200	208	219	214	213	192	166	142	145	145	[132	114	103	109	98	124]	156	154	1
12	✓	✓		167	180	190	193	206	209	209	209	193	193	187	(166)	163	156	150	138	130	132	134	138	147	[126	129	129]	166	0
13	✓	✓		[129	158]	211	235	229	209	204	190	192	198	192	184	177	177	167	164	158	148	145	[103	92	113	111	108]	166	0
14				[105	101]	—	—	—	—	214	219	229	232	221	209	193	184	171	163	156	142	[129	135	129	129	119	134]		0
15	✓	✓	✓	[174]	224	238	227	225	230	242	258	258	254	243	222	198	184	158	[103]	143	145	147	138	145	161	184	203	196	0
16	✓	✓	✓	217	225	230	222	214	224	224	203	188	187	184	182	177	172	164	161	156	150	161	187	209	209	242	225	196	0
17	✓	✓	✓	238	245	230	217	213	214	225	230	192	177	171	164	177	161	150	151	158	159	161	161	177	203	238	211	193	1
18	✓	✓		206	217	246	266	303	328	359	283	229	206	200	192	[161	129	147]	145	132	129	118	127	138	137	150	148	196	1
19	✓			150	167	{129	148}	175	177	179	185	177	177	177	[161	171]	(179)	175	172	171	171	175	187	184	172	159	[156]	170	1
20	✓	✓		[129	113	106	97	106	134]	171	198	211	188	158	158	155	158	158	151	156	158	151	156	158	167	190	209	156	1
21	✓			225	248	262	280	291	279	242	206	175	158	148	145	138	138	135	138	{111}	151	159	161	{143	184	158}	216	187	1
22				—	—	—	—	—	—	—	—	184	151	145	148	145	145	143	145	147	135	143	148	158	150	[129	138]		0
23				[122	203]	227	206	193	196	187	177	163	156	167	148	[92	114]	129	134	138	143	148	132	—	—	—	—		0
24				—	—	—	—	—	—	—	—	[122	124	127	130	132	127	97	97	74	105	134	132	138	135	130	130]		0
25	✓	✓		[143	145	135	105	71	63	129]	193	198	208	204	192	192	182	177	172	166	150	155	158	[130	127	111	108]	151	0
26				[132]	148	145	—	—	—	—	—	147	150	156	138	129	(129	134)	129	119	116	118	124	140	143	138	134		0
27	✓			132	138	134	134	130	140	143	142	143	145	148	132	{114}	122	{113	126}	138	142	138	134	132	129	[126	119]	133	1
28	✓	✓		[114	109	111	124	147]	161	158	164	174	171	161	164	158	151	147	138	138	138	135	143	[132	113	106	87]	139	0
29	✓	✓		[101	100	124]	185	203	203	193	206	219	225	238	238	221	211	204	200	187	164	[121	87	82	87	84	76]	165	0
30	✓	✓		[77	84	97	100	105	122]	208	308	338	306	270	253	229	214	209	206	[161	106	113	97	97	95	93	90]	166	0
31	✓			[98	124	126	127]	145	138	147	164	192	209	203	177	{90	171}	219	196	192	177	182	193	193	{184	209}	206	169	2
MEANS * 24 DAYS				152	158	164	169	177	186	200	205	203	198	191	181	168	164	159	153	151	146	143	140	142	143	147	146	166	
MEANS † 19 DAYS				151	156	164	169	177	188	207	214	211	206	197	188	177	168	160	153	152	143	139	134	138	138	144	142	167	-
MEANS ‡ 9 DAYS				175	185	190	191	196	200	201	198	192	188	183	175	166	158	148	140	146	144	142	145	154	158	171	169	171	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 484

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1933

	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
	199	191	188	199	197	206	208	199	195	186	187	176	168	163	166	154	147	136	133	122	126	131	132	(104)	167	0
	—	—	—	—	—	—	—	—	146	153	155	145	143	143	143	143	142	142	139	133	136	125	131	117		0
	119	111	121	124	135	146	138	140	163	167	159	143	146	146	142	138	132	126	117	108	107	108	97	100	131	0
	104	111	118	105	117	149	167	161	167	164	158	157	115	93	76	74	93	104	111	104	104	112	[96	82]	118	0
	[79	74	67	73	115]	199	314	344	320	274	226	191	178	174	(178)	176	183	157	166	158	[132	111	94	91]	170	0
	[101	103	112	108	107	108]	122	126	138	149	167	167	161	154	149	147	133	131	118	107	110	112	118	107	127	0
	98	90	96	97	104	117	146	175	186	199	201	191	178	162	140	136	135	[126	91	91	98	112	115	114]	133	0
	[97	94	77	87	87]	—	—	—	274	309	304	253	230	212	191	191	194	163	[84	98	118	84]	126	135		0
	145	136	132	131	126	126	132	145	146	162	161	150	135	143	133	131	121	124	131	124	118	111	94	103	132	0
	96	93	91	111	161	187	201	209	222	217	216	191	171	155	146	131	132	121	118	[90	101	104	103	97]	144	0
	[90	83	79	91	111]	149	186	199	222	235	230	220	196	164	138	146	142	[125	104	97	89	77	97]	157	143	1
	164	174	186	191	208	211	212	211	210	209	200	(172)	167	151	146	131	122	122	119	107	107	[90	94	94]	158	0
	[84	118]	197	225	222	208	199	187	197	190	188	182	183	178	162	163	154	142	122	[82	86	97	90	76]	156	0
	[71]	—	—	—	—	232	222	234	225	227	225	209	197	194	178	167	150	140	[118	115	97	108	94	96]		0
	[142]	209	222	225	222	225	246	270	271	272	267	230	203	190	159	[94]	138	138	142	132	126	124	167	196	192	0
	209	214	211	201	205	208	209	197	197	190	192	190	186	178	171	163	149	143	146	171	172	184	211	203	188	0
	212	214	208	209	200	197	212	217	184	171	162	158	171	146	140	150	146	150	142	145	146	179	215	190	178	1
	192	195	217	236	282	317	356	294	237	212	209	197	[157	118	147]	140	124	131	115	125	135	135	150	150	190	1
	159	171	{182}	178	176	175	182	191	184	191	191	[166	175]	195	(200)	184	180	183	184	196	191	184	171	[158]	181	1
	[122	103	90	77	90	118]	(146 | 159)	211	206	172	163	159	159	157	146	146	149	157	154	158	159	171	184	148	1
	186	220	246	268	261	247	211	197	166	159	151	140	133	135	132	126	{147	143	149	172	161	150	122}	186	175	1
	—	—	—	—	—	—	—	—	176	147	138	135	136	135	133	131	124	111	122	122	126	117	[94	93]		0
	[84	162]	199	187	170	178	178	171	163	158	174	163	[79	115]	126	132	132	140	138	118	119	[110	90	90]		0
	—	—	—	—	—	—	—	—	[104	105	107	118	(117	107)	77	80	(77	84	108)	108	107	108	104	93]		0
	[77	74	74	61	36	30	84]	188	197	197	184	171	(175 | 175)	171	168	159	131	126	124	[100	73	84	77]	122	0
	[93]	112	122	105	[94	104	73]	(121)	121	121	121	117	108	114	(119)	118	107	(105	104	107	110)	111	104	97		0
	104	107	107	112	112	118	126	129	132	135	(143	119	112)	108	108	118	118	118	110	108	108	104	[94	90]	114	1
	[80	73	67	74	103]	133	142	154	162	161	163	162	159	151	135	124	122	121	122	108	[97	84	79	61]	118	0
	[67	71	90]	136	175	176	175	188	208	209	217	217	206	194	192	175	162	140	[97	71	53	70	(62)	52]	142	0
	[52	55	70	76	84	98]	172	302	332	307	266	248	221	199	201	195	[146	97	94	79	74	74	70	62]	149	0
	[47	84	103	93]	112	111	122	133	149	174	159	146	{170}	204	212	{158	179}	159	146	149	171	203	203	172	148	2
●	122	128	136	142	153	165	184	196	200	197	190	177	168	160	154	144	142	134	128	122	120	120	122	121	151	
†	120	124	132	138	151	167	191	206	212	206	198	186	174	161	153	145	140	131	123	114	112	112	118	116	151	
‡	141	152	158	161	168	176	184	188	188	188	186	174	163	151	142	131	134	132	128	126	127	133	143	142	155	

DESIGNATIONS AND REMARKS:

●=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

TABLE 485

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME) JAN. 1 ... 934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		[62	98	55]	61	74	80	67	59	60	66	72	83	94	91	86	91	98	118	118	[152	172	182	198	199	.92	0
2				[179	189	188	194	156	150	147	136]	125	122	—	120	115	121	—	—	—	—	—	—	—	—	—	—		0
3				—	—	—	—	—	—	—	—	109	104	105	98	76	84	118	86	107	131	140	154	147	144	134	149		0
4	✓	✓	✓	149	158	151	157	[135	86	104]	118	127	104	122	122	132	130	126	131	[148	166	151	146	136]	116	102	120	.31	0
5	✓	✓	✓	[145	156	149	137]	113	99	68	61	67	63	66	67	72	76	84	84	93	94	87	90	80	79	80	106	.92	0
6	✓	✓	✓	93	85	61	63	60	47	52	67	69	68	76	73	90	90	97	107	99	104	97	96	96	98	89	85	.52	0
7				[96	107	103	90	87]	69	71	61	80	91	94	90	75	76	Z	Z	Z	Z	[125	213	254	245	295	[		1
8	✓			[203	155	134	122]	81	50	91	94	88	82	83	94	112	122	122	122	112	[143	245	352	442	390	457	[	.54	0
9	✓	✓		[221	154]	104	85	78	69	69	76	86	85	95	106	108	112	112	114	111	102	[127	217	372	450	466	[	.55	0
10	✓			[290	332	269	220	184	188	175	156	153	136]	121	108	95	94	102	116	127	[302	346	206	190	202	[	[	.91	0
11	✓	✓		[259	253	208	260	282	243	128]	79	66	68	67	71	82	85	104	96	[134	190	282	181	158	148	158	[	.57	0
12	✓	✓		[206	198	224	232	164	168	143]	89	67	64	66	63	67	68	67	62	76	71	80	96	[123	104	99	[	.2	0
13	✓	✓	✓	[125	154	167	169	139	144	182	160	122]	103	99	85	77	95	95	92	[111	116	132	141	141	141	137	[		0
14				[170]	—	—	—	—	—	[145	157]	117	84	76	81	81	99	Z	N144	Z	Z	Z	86	98	98	90	[		2
15				Z-	86	N 86	124	128	Z-	N 38	N 2	56	Z	Z	N160	72	63	Z	76	Z	Z	Z	Z	10.8	59	54	56		2
16	✓	✓		86	87	90	82	75	69	54	113	91	95	94	80	94	84	95	95	87	81	90	93	107	113	128	124	.6	0
17	✓	✓	✓	102	99	85	85	108	116	90	99	79	76	69	80	73	76	75	75	79	[82	91	95	106	111	123	11	.1	0
18	✓	✓		[134]	91	83	81	77	71	64	51	53	50	50	52	54	61	63	68	N 59	-56	77	77	89	303	112	86	.71	1
19				75	66	—	—	—	—	—	58	59	60	58	58	60	N 85	70	102	N 1	N 78	Z	Z	39	54	63	77		1
20				69	83	68	54	58	49	40	42	47	52	59	60	65	Z	Z	Z+	Z	Z+	102	65	95	104	85	76		1
21				89	77	—	—	—	—	—	98	100	86	79	75	76	84	92	88	79	71	78	92	95	94	94	89		0
22	✓			86	110	130	127	135	108	98	91	80	72	72	77	74	69	69	74	87	94	97	118	113	114	[131	141	.9	0
23	✓	✓	✓	[154	163	167	170	151	161	138]	124	131	118	111	107	104	111	116	112	111	[113	132	144	146	149	140	133	.4	0
24	✓	✓	✓	[124]	111	99	96	91	90	86	83	86	77	67	65	73	79	76	[95	90	90	109	(103)	94	91	93	141	.21	0
25	✓	✓		[130	133	163	145	90]	77	75	72	63	61	61	63	67	63	70	69	72	73	75	[116	126	100	171	190	.9	0
26	✓	✓		[206	190	105]	62	63	69	64	63	59	60	61	61	63	66	63	63	62	65	73	81	87	88	219	[	.2	0
27	✓	✓		[227	208	181	167	158	149	133	68]	46	46	54	63	65	58	69	74	[101	99	142	174	176	176	198	195	.3	0
28	✓	✓		[157	162	130	152	158	154	140	121]	72	85	103	[130	137	124	131	151	130	135	137	153	158	154	134	104	2	0
29	✓			[69	62	86	108	104	40	91	63]	73	94	101	75	72	80	81	83	72	76	83	89	92	94	91	98	.2	0
30	✓	✓	✓	83	82	78	77	[113	100]	64	80	72	58	44	45	52	57	71	60	65	62	57	45	67	70	80	94	.39	0
31				89	78	61	91	90	48	50	42	81	52	61	59	63	104	Z	Z	59	69	65	[80	220	245	189	11		1
MEANS * 22 DAYS				150	147	133	131	120	108	99	90	82	79	80	80	84	86	90	92	97	105	129	135	149	161	192	194	.4	
MEANS † 18 DAYS				148	143	128	128	118	111	96	88	79	75	76	79	84	85	89	91	96	95	114	122	135	134	146	148	.9	
MEANS ‡ 8 DAYS				122	126	120	119	114	106	98	99	94	83	82	80	84	89	92	94	100	103	107	108	108	107	104	111	.2	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 486

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JANUARY 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	736.6	26.1	54	32.1	18.8	0.39	7.3	SSE	8	ESE	3	SSW	2	WSW	6	CiSt; ACu; ASt	4- 7	CiSt; ACu; ASt	6- 8	
2	733.4	23.9	64	31.7	17.3		11.4	SW	5	W	4	WNW	8	WNW	8	ACu; ASt; StCu	1- 3	ACu; ASt	1- 3	Haze at 9h
3	734.9	23.7	45	26.1	15.0		7.0	NNW	2	N	10	NW	14	WNW	3	CiSt; ACu; Cu	2- 6	Cu	7-10	
4	741.4	19.4	54	26.7	11.2	0.01	11.4	WNW	2	SW	2	SW	6	WSW	10	Cu; StCu	3- 6	Cu	3- 1	
5	741.5	24.7	34	33.7	11.8		12.5	WSW	3	S	10	SSE	10	SSW	5	Cu	1- 3	Cu	1- 3	Clear at night
6	738.3	31.5	18	38.9	18.0		12.4	S	5	ESE	12	S	5	SSW	5	CiSt; ACu; ASt	1- 3	Ci; ASt; Cu	1- 3	Fire in NW in pm; clear at night
7	736.6	34.2	15	38.5	21.3		4.3	E	2	ESE	8	N	9	NNW	1	Ci; CiSt; ACu; ASt	7- 8	ACu; StCu; CuNb	8- 6	Thunderstorms in early pm
8	738.1	27.1	61	37.2	18.0	0.65	12.7	..	0	SSW	4	SW	2	SW	4	Ci; ACu; ASt; Cu	1- 3	Ci; ACu; ASt; Cu	1- 3	
9	738.5	27.4	41	39.0	20.2		12.6	S	8	SSE	6	WSW	1	WSW	2	ACu	1- 3	ASt; Cu	1- 3	Smoky
10	738.1	32.1	36	40.3	17.9		11.7	SW	3	S	1	W	9	SW	3	ACu; ASt	1- 3	CiSt; ASt; Cu	4- 8	Smoky
11	737.9	29.7	39	41.3	17.5		12.8	SSW	1	SSE	4	NNW	4	WSW	4	Ci; CiSt; ACu	1- 4	Ci; CiSt; ACu; Cu	3- 6	Smoky; lightning in evening in E
12	734.6	37.2	15	43.5	17.5		11.0	WSW	3	ESE	6	N	2	W	4	Ci; ACu; StCu	1- 8	Ci; ASt; ACu	7- 8	Lightning in evening
13	736.5	26.4	58	36.6	19.4		12.1	N	1	W	4	NW	4	WSW	3	CiSt; CiCu; ASt; St	10- 3	CiSt; ASt; ACu; Cu	3- 6	Smoky in am; lightning in E in evening
14	736.7	31.3	37	40.2	17.7		10.4	SW	3	E	2	W	15	WSW	1	CiSt; ACu; ASt; Cu	3- 6	Cu; StCu; CuNb	7-10	Thunderstorms in pm; clearing slightly in evening
15	736.7	25.7	74	35.0	21.4	0.26	3.0	NNW	4	S	5	S	5	S	3	ASt; Cu; Nb	7-10	ASt; CuNb	10	Light thundershowers in am, heavy in pm
16	736.9	25.8	71	28.9	20.1	0.70	10.1	..	0	NNW	1	W	9	W	5	ACu; Cu; StCu	6-10	Cu; StCu	3- 6	Lightning in E in evening
17	737.8	25.0	56	33.2	16.7		12.6	S	1	SW	8	SSW	6	WSW	7	Ci; ACu; ASt; Cu	1- 6	ACu; ASt	6- 3	Lightning in NE in evening
18	738.1	25.8	51	35.4	19.0		12.7	SSW	10	S	15	S	7	SSE	6	Ci; ACu; CiSt	4- 8	ACu; ASt; Cu; CuNb	7- 8	Rain in pm; lightning in evening
19	739.1	26.1	49	32.9	21.0	T	5.9	SSE	2	SSE	10	S	3	..	0	Ci; ACu; ASt; Cu	7-10	ASt; StCu; CuNb	7-10	Light rain in pm; thundershowers in evening
20	737.1	30.7	44	38.8	20.9	0.02	9.4	SW	1	SE	2	E	5	WNW	3	Ci; ACu; ASt; Cu	6- 8	CuNb; Nb	7-10	Light rains in pm; thunder and lightning in evening
21	738.4	26.3	60	32.2	20.5	T	11.3	NE	1	WNW	5	WNW	6	W	3	Ci; ACu; ASt	3- 6	Ci; ACu	6- 3	Cloudless in evening
22	739.6	24.6	58	34.2	17.0		10.9	WSW	3	SSW	4	W	1	WSW	4	ACu; ASt	3- 5	ACu	1- 3	
23	739.4	25.3	42	30.2	16.4		11.9	WSW	7	WSW	7	WSW	10	SW	9	Ci; CiSt; ASt; ACu	1- 6	CiCu; ACu; ASt	4- 8	
24	740.9	21.2	52	28.3	16.6		7.5	SW	9	SSW	8	SSW	7	WSW	11	Ci; ACu; ASt; StCu	6- 8	Ci; ACu; StCu	6- 3	
25	740.3	22.2	40	30.3	14.0		12.7	SW	4	S	12	S	10	WSW	8	Ci; ACu; Cu	1- 3	Cu	1- 3	
26	740.6	24.2	39	35.1	17.3		12.5	SW	6	S	11	S	6	SW	4		0	Cu	1- 3	
27	736.8	33.2	26	39.1	18.4		12.3	W	3	S	2	W	9	W	6	ACu	1- 3	CiCu; ACu	4- 6	
28	736.5	28.0	51	36.3	17.8		12.2	WSW	4	WSW	7	SW	10	WSW	10	Ci; ACu; StCu	1- 3	Ci; ACu	1- 3	Hazy with smoke; dust in air at 9h
29	737.3	24.7	46	36.6	18.1		12.1	SW	6	SSE	16	SSE	12	SSW	4	Ci; CiSt; ACu; StCu	8- 3	Ci; ACu 7	1- 3	Fire in SE in early pm
30	736.7	28.3	31	38.6	23.5		1.3	S	4	S	7	S	4	NNE	2	CiSt; ACu; StCu	9-10	CiSt; ACu; ASt	10	Lightning in S in pm
31	736.1	32.8	32	36.7	27.3		3.0	SW	5	SE	7	E	6	W	5	Ci; ASt; ACu; Cu	10	ASt; ACu; Cu	9- 6	Thunder in early pm, lightning later
SUM						2.03														
MEAN	737.8	27.2	45	35.2	18.3		10.0		3.7		6.5		6.7		4.8					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 487

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		197	194	197	221	221	246	269	230	266	230	226	205	189	180	177	164	131	131	133	[123	118	113	105	103]	182	0
2	✓			[105	103	107	103	112	115	115	118]	121	130	136	141	143	138	123	[49	79	85	110]	139	138	148	151	167	120	0
3	✓			171	166	161	167	180	198	190	148	149	148	138	131	141	133	136	125	130	131	131	139	148	161	162	167	152	0
4	✓	✓	✓	174	167	184	189	[202	246	246]	187	180	175	166	159	154	161	161	144	[98	85	97	103	125]	133	146	141	159	0
5	✓	✓	✓	[126	123	131	141]	157	180	246	261	230	210	208	190	167	159	148	144	146	148	157	169	190	202	200	162	175	0
6	✓	✓	✓	167	213	274	294	296	328	344	285	233	213	197	190	180	177	174	175	174	154	146	148	167	190	210	244	216	0
7	✓			[184	159	161	180	195]	230	256	308	259	216	212	210	203	180	≷187	100	239	213≷	[123	49	43	52	59	80]	171	1
8				[131]	—	—	—	—	—	—	—	154	153	136	143	128	121	130	116	121	[69	48	39	38	41	64	79]		0
9	✓	✓		[82	133]	182	203	223	220	226	202	190	187	180	174	167	(167)	164	167	154	146	[125	85	61	46	52	49]	149	0
10				[71	66]	—	—	—	—	—	—	[108	115]	121	131	139	126	107	97	102	[56	31	105	115	115	103	85]		0
11	✓	✓		[85	85	84	66	57	72	139]	200	239	230	230	218	197	187	174	148	[102	69	36	105	118	131	128	113]	134	0
12	✓	✓		[82	82	80	82	113	98	120]	169	187	174	164	166	164	157	156	131	121	125	121	130	[97	103	105	103]	126	0
13	✓	✓	✓	[125	121	131	112	115	93	75	75	85]	98	108	121	131	136	136	126	[110	108	113	115	118	115	118	128]	113	0
14	✓			[84	82	89	89	92	80	95	108]	126	159	167	151	149	148	≷ 84	98	105	159	148≷	197	161	167	197	≷115≷	127	2
15				≷164	218	197	148	126	136	185	197≷	202	≷149	133≷	216	195	179	≷149≷	187	≷136	223≷	—	—	—	—	—	171		2
16	✓	✓		171	197	198	197	220	223	180	128	118	115	108	113	108	(107	125)	138	148	161	167	164	175	164	164	164	156	0
17	✓	✓	✓	180	192	190	190	159	157	162	148	138	148	153	161	161	161	164	164	164	[157	146	138	128	131	138	138]	157	0
18	✓	✓		[131]	190	197	197	212	213	213	213	213	212	212	212	200	197	184	180	159	≷141≷	166	179	195	≷221	212≷	190	193	1
19	✓			230	261	249	244	277	279	276	261	271	254	244	246	244	246	233	221	≷244≷	216	≷174	180	338	279≷	262	243	249	1
20				230	216	228	253	264	289	341	359	298	246	216	207	179	≷146	72≷	161	≷134	148≷	157	153	159	164	≷179	184≷		1
21				174	180	182	182	167	146	141	146	144	154	149	148	146	144	[138	98	125]	154	159	151	159	159	164	166		0
22				174	157	134	133	(131	148	154	151	172	172	164	174	166	174	169	167	151	141	141	146	138	156	[148	131]		0
23	✓	✓	✓	[136	131	128	126	125	118	133]	131	138	148	154	153	149	151	141	141	134	133	131	128	115	116	131	131	134	0
24	✓	✓	✓	131	128	139	146	148	161	169	169	161	174	187	197	190	182	164	[120	115	105	89	113	130	131	130	125]	146	0
25	✓	✓		[126	120	103	121	197]	212	220	213	216	216	213	190	169	164	169	162	157	154	148	[105	100	84	72	66]	154	0
26	✓	✓		[66	85	144]	230	228	218	233	246	248	246	246	236	231	213	190	182	179	175	167	169	175	185	[115	85]	187	0
27	✓	✓		[82	85	93	103	112	102	121	210]	280	284	262	244	239	226	197	156	[113	105	85	71	82	80	100	103]	147	0
28	✓	✓		[98	97	97	98	93	92	87	102]	116	108	103	[80	80	97	95	79	93	98	115	115	112	108	98	105]	99	0
29				[92	85	108	128]	—	—	—	—	115	93	105	148	175	180	180	179	180	175	180	185	182	184	185	187		0
30	✓	✓	✓	200	213	239	218	[146	148]	180	161	179	218	279	298	277	(244)	228	216	207	212	228	213	208	197	[190	138]	210	0
31	✓			[154]	203	216	218	215	200	228	248	215	190	175	174	171	174	≷166	100	192≷	180	185	[138	36	75	95	116]	169	1
MEANS * 24 DAYS				137	147	157	164	171	176	188	188	190	187	186	182	175	170	162	143	146	141	135	134	137	139	139	132	159	
MEANS † 18 DAYS				131	142	155	163	168	174	187	185	190	188	189	184	175	170	164	152	139	134	132	132	134	136	134	127	158	
MEANS ‡ 8 DAYS				155	161	177	177	169	179	194	177	168	173	182	184	176	171	164	154	144	138	138	141	148	152	158	151	164	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 488

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JANUARY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		161	[123]	186	198	190	208	242	257	257	220	202	180	169	156	144	138	104	104	110	[95	82	76	67	61]	155	0
2	✓			[62	64	65	61	76	74	94	94]	98	94	95	100	112	103	(114)	[35	53	62	77]	102	95	103	82	94	84	0
3	✓			95	100	107	114	129	154	172	141	140	135	120	117	134	119	107	97	106	106	92	91	79	89	91	80	113	0
4	✓	✓	✓	92	102	113	104	[103	150	154]	128	135	151	135	131	134	132	132	114	[64	59	70	79	92]	104	106	98	112	0
5	✓	✓	✓	[85	80	89	92]	112	132	232	254	230	204	200	180	156	140	129	129	134	135	149	149	146	158	164	126	150	0
6	✓	✓	✓	126	160	247	273	271	306	332	284	230	205	184	180	167	164	164	147	135	125	120	122	135	156	182	213	193	0
7	✓			[149	114	122	123	144]	205	205	273	234	205	205	205	207	182	173	193	230	191	[243	44	32	36	29	47]	158	1
8				[47	82	70	85]	126	137	135	126	125	141	122	114	106	104	97	94	102	[62	32	24	21	26	36	46]		0
9	✓	✓		[46	85]	153	183	207	204	213	191	178	168	153	150	144	151	(150)	135	126	125	[100	61	33	27	29	29]	127	0
10				[32	36	58	43	58	73	74	74	77	79]	85	100	119	107	89	76	82	[46	21	73	71	77	73	59]		0
11	✓	✓		[43	46	44	29	30	44	106]	196	227	213	204	204	193	180	172	144	[88	55	30	61	77	91	85	82]	110	0
12	✓	✓		[61	47	50	55	73	61	79]	135	165	160	156	156	156	153	141	132	107	109	107	106	[67	73	82	76]	104	0
13	✓	✓	✓	[76	89	85	86	77	77	58	59	70]	79	91	95	106	112	125	120	[94	89	86	77	77	80	62	76]	85	0
14	✓			[55	46	61	64	65	46	61	64]	94	126	140	128	134	119	106	76	107	173	186	169	114	125	134	178	107	2
15				160	151	151	126	95	151	183	213	193	184	164	172	180	165	134	162	147	158	239	117	135	(153	160)	146		2
16	✓	✓		128	154	[126	122	178]	193	161	106	106	92	89	88	91	88	(91	114)	132	146	138	125	120	114	107	97	121	0
17	✓	✓	✓	119	123	146	135	97	97	126	126	122	132	150	150	156	150	153	150	150	[135	129	119	107	110	106	100]	129	0
18	✓	✓		[98]	164	176	175	189	184	207	218	220	216	218	216	209	194	182	167	150	153	146	150	172	150	165	151	178	1
19	✓			182	204	194	202	256	268	267	263	271	264	258	250	247	254	222	190	245	191	120	162	336	259	220	193	230	1
20				—	—	—	—	—	—	356	314	294	243	222	208	183	172	149	146	149	97	128	120	123	120	131	141		1
21				132	—	—	—	—	—	—	—	128	125	131	134	147	129	[122	85	110]	141	135	117	120	120	129	—		0
22				—	—	—	—	—	—	—	—	164	160	151	154	156	156	158	150	140	120	122	117	112	120	[109	100]		0
23	✓	✓	✓	[102	106	100	85	82	94	106]	120	117	120	135	135	141	134	(135)	129	114	[80	98	94	85	95	91	97]	108	0
24	✓	✓	✓	[100]	109	116	114	123	135	150	158	149	167	187	(190	158	126)	156	[100	95	91	76	98	106	(116)	116	91]	126	0
25	✓	✓		[85	80	82	80	153]	191	205	205	219	222	227	(180)	183	179	176	178	146	135	129	[82	77	61	46	44]	140	0
26	✓	✓		[41	50	98]	219	216	220	229	228	256	261	257	245	238	216	193	178	165	154	144	137	140	158	[71	59]	174	0
27	✓	✓		[50	59	65	73	70	74	89	178]	262	274	263	238	233	218	178	135	[91	89	65	53	68	55	(70)	73]	126	0
28	✓	✓		[76	64	73	74	77	70	76	52]	106	92	82	[55	61	79	79	62	76	82	95	91	86	77	86	82]	77	0
29				[62	59	70	106	76	76	85	106]	106	92	91	135	175	180	180	178	182	172	164	140	131	147	149	143		0
30	✓	✓	✓	150	168	197	189	[120	117]	168	144	162	200	269	294	273	244	(216)	208	193	200	207	201	178	153	[144	110]	188	0
31	✓			[123]	165	190	183	189	194	216	244	193	180	164	164	154	146	129	147	164	158	153	[119	30	55	61	89]	150	1
MEANS * 24 DAYS				96	104	120	126	134	146	164	172	177	174	174	168	165	156	149	134	128	123	120	108	106	105	100	98	136	
MEANS † 18 DAYS				91	100	119	127	132	142	163	169	178	176	178	170	165	156	151	138	120	115	111	106	103	103	99	92	134	
MEANS ‡ 8 DAYS				106	117	137	135	123	138	166	159	152	157	169	169	161	150	151	137	122	114	117	117	116	122	121	114	136	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 489

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈148	134	126	130	136	N131	148	103⌋	68	—	—	—	—	—	—	—	—	—	—	—	—	—	—		1
2	✓	✓		70	62	61	60	55	54	55	52	64	61	60	59	57	54	50	49	42	⌈ 75	96	96	132	103	99	120⌋	70	0
3				⌈142	145	161	166	135	147	139	122	117	84⌋	63	47	51	55	≷ 93	96	86	Z	Z ≷	—	—	—	—	⌈105⌋		2
4	✓	✓	✓	⌈100	98	109	87⌋	64	72	71	61	72	77	57	53	55	50	46	50	⌈ 63	72	78	71	87	83	99	116⌋	75	0
5				⌈113⌋ ≷	92	130	146	N 43 ≷	72	64	—	—	—	52	47	50	52	63	58	⌈ 94	125	147	215	218	262	154	159⌋		1
6	✓	✓		⌈214	192	179	172	155	175	184	152⌋	88	96	⌈158	139⌋	124	113	109	⌈106	183	246	289	273	229	164	153	156⌋	169	0
7	✓			⌈143	180	256	191	185	181	189	192	143	134	121	103⌋	92	92	⌈128	209	218	265	347	300	220	164	155	147⌋	181	0
8	✓	✓	✓	127	⌈ 97	87	82	90	74	97	122⌋	123	121	111	107	110	100	106	102	122	117	112	118	119	116	⌈117	123⌋	108	0
9	✓	✓		⌈136	156	148	139	125⌋	109	112	87	83	87	88	88	90	89	89	89	87	88	⌈ 93	140	118	108	126	138⌋	109	0
10	✓			⌈138	143	156	143	143⌋	110	135	143	117	101	95	87	82	85	96	84	81	⌈111	155	161	134	130	153	151⌋	122	0
11	✓			⌈168	169	163	167	173	176	155⌋	92	83	71	74	73	64	67	75	73	74	81	85	⌈154	188	210	191	155⌋	125	0
12	✓	✓	✓	⌈121⌋	88	91	104	100	100	97	98	85	63	66	59	47	58	36	55	66	75	70	79	94	⌈ 98	119⌋	68	81	0
13	✓	✓		84	77	76	91	108	76	56	50	47	N 0	−1	−23	−1	72	85	102	114	102⌋	89	98	86	76	80	80	68	1
14	✓	✓	✓	74	80	79	68	59	67	64	63	60	67	75	71	71	⌈ 83	87⌋	86	80	88	⌈106	92⌋	78	71	81	91	77	0
15	✓	✓	✓	97	96	100	88	86	82	81	76	70	72	76	79	75	76	89	83	87	92	104	97	⌈ 66	127⌋	87	80	86	0
16	✓	✓		87	109	114	108	84	53	47	49	≷ 42	N 84	126 ≷	63	79	94	88	91	⌈ 73	63	97	87	72	79⌋	⌈108	113⌋	84	1
17	✓	✓		⌈155	151⌋	90	89	88	71	58	66	112	109	90	⌈ 93	108	79	106	139	175	184	213	259	188	126	113⌋	95	123	0
18	✓	✓		93	84	85	62	74	97	105	94	84	84	77	90	96	⌈142	183	198	197	163	116	152	129	112	116	129⌋	115	0
19	✓	✓	✓	105	91	76	⌈ 57⌋	58	62	58	72	90	92	83	95	87	87	95	94	104	100	96	100	112	113	108	90	89	0
20	✓	✓		71	67	55	56	⌈ 73	91	142	109⌋	67	72	69	71	77	74	75	81	87	88	86	99	105	113	118	119	86	0
21				109	98	93	94	≷ Z ≷	—	—	—	—	—	—	—	—	—	—	⌈145	209	134⌋	105	132	138	140	138	N105 ≷		2
22				≷N 97	129	122	N142	121	Z	Z	Z	Z+	N 36 ≷	89	102	89	93	106	≷ Z− ≷	107	89	105	111	118	117	109	112		2
23	✓	✓	✓	125	124	119	142	140	131	108	96	98	101	99	103	92	95	95	103	107	99	112	⌈132	121	153	140	131⌋	115	0
24				⌈147	116	141	152	136	127⌋	112	118	102	101	86	68	≷ 96	Z	Z ≷	100	85	85	⌈116	172	Z+	174	128	112		1
25				110	94	73	74	60	70	≷ Z−	Z+ ≷	52	50	51	67	72	84	80	86	≷ 103	N103	Z	Z	51	Z	Z	Z ≷		2
26	✓	✓		87	99	104	115	111	76	58	67	58	62	54	≷ −4 ≷	67	64	67	81	90	90	94	N 74 ≷	99	111	111	95	80	1
27	✓	✓		⌈139	155	121	82	87	162	186	124⌋	74	89	101	94	112	111	115	128	130	133	⌈186	257	187	152	157	163⌋	135	0
28	✓	✓	✓	⌈126	140	116	120	125⌋	97	103	98	90	72	62	63	70	81	91	99	90	⌈110	112	117	148	103	94	83⌋	100	0
29																													
30																													
31																													
MEANS * 21 DAYS				117	118	114	106	104	101	103	93	83	82	83	74	79	84	91	100	108	116	130	141	129	120	120	116	105	
MEANS † 18 DAYS				112	109	101	96	93	92	93	85	78	78	81	72	79	85	90	96	105	110	119	130	121	112	113	111	98	
MEANS ‡ 8 DAYS				109	102	97	94	90	86	85	86	86	83	79	79	76	79	81	84	90	94	97	101	106	102	105	98	91	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z− = INDETERMINATE NEGATIVE VALU

TABLE 490

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	736.5	30.1	45	37.4	17.9		11.9	NW	1	SSE	4	SW	3	S	7	ACu; ASt; Cu	3- 6	ACu; Cu	3- 6	Smoky in am
2	736.8	28.4	40	40.8	20.6		9.4	S	10	SSE	10	NE	3	WSW	6	ACu; ASt	1- 3	ASt; ACu; StCu	3- 8	Smoky in am, and again after 17h
3	737.5	33.2	34	40.6	22.0		9.1	WSW	2	E	2	WNW	10	W	4	ACu; ASt; Cu	1- 3	ACu; ASt; Cu	4- 8	Smoky throughout; lightning in evening
4	737.7	32.6	28	42.1	21.0		4.1	WSW	4	S	3	N	8	WSW	11	ACu; ASt	7-10	ACu; ASt	7-10	
5	738.2	31.8	25	40.0	23.6		9.4	SSW	8	SSE	13	NW	4	WSW	3	ACu; ASt	3- 6	ACu; ASt	3- 6	
6	738.5	29.1	43	36.7	19.8		11.4	W	2	WSW	4	W	7	W	6	CiSt	1- 3	ASt	1- 3	Smoky throughout
7	738.5	23.9	63	33.0	18.0		10.7	W	4	SW	4	W	8	WSW	6	Cu	1- 3	ACu; Cu	3- 6	Heavy smoke throughout
8	740.7	22.4	55	27.9	15.0		9.7	WNW	2	WNW	4	W	12	WSW	4	ACu; Cu	3- 7	Cu; StCu	3- 6	
9	742.4	19.3	44	29.2	9.8		11.8	SW	4	S	12	S	3	SW	8		0	ACu	1- 3	
10	741.0	24.4	27	34.2	10.5		11.8	SW	3	S	5	S	4	WSW	7	Ci; CiSt	6- 8	Ci; CiSt	6- 8	Fires in NW all day
11	740.5	23.8	44	35.1	15.0		11.1	SW	3	SSW	11	SSW	11	WSW	7	Ci; CiSt	4- 6	Ci; CiSt	4- 6	Fire in NW
12	740.5	24.1	46	32.8	18.8		2.0	SSW	13	SSE	15	SE	7	WSW	7	CiSt; ACu; ASt	6- 8	CiSt; ACu; ASt	7-10	Fire in NW; dust in air at 9h
13	738.9	30.0	26	34.5	23.4		6.3	SW	4	SE	15	ESE	14	SE	4	ACu; ASt	10	ACu; ASt; Cu	10	Fire in NW; dust noted at 9h
14	740.0	28.4	31	34.9	19.5		9.2	SSE	1	ESE	12	ESE	11	SSE	4	Ci; CiCu; CiSt; ASt	4- 7	Ci; CiSt; ACu; ASt	4- 7	
15	739.2	28.6	19	34.8	23.5		8.2	ESE	13	ESE	14	ESE	10	SSE	4	Ci; CiSt; ACu; ASt	6- 8	Ci; CiSt; ACu; ASt	7- 8	Fires in various directions
16	737.2	27.2	20	37.2	23.0		3.5	SE	4	ESE	6	ESE	5	SE	1	ACu; ASt	7- 9	ACu; ASt	6- 1	Fires in vicinity; lightning in SW in evening
17	735.8	30.1	32	37.7	20.1		9.0	E	1	NNE	4	WNW	10	SW	4	Ci; CiSt; ACu	7- 3	Ci; CiSt; ACu; Cu	3- 7	Smoky; fires in vicinity; lightning in E in evening
18	736.8	30.8	34	37.2	17.5		11.7	NW	1	ENE	2	NW	10	W	4	ACu; ASt	1- 3	Cu; ASt	1- 3	
19	737.9	26.4	54	33.9	18.4		9.3	NW	2	NE	2	NNW	7	WNW	2	FrCu; Cu	4- 6	ACu; ASt	1- 3	Fires nearby
20	737.2	22.5	71	34.4	13.0		10.4	..	0	ESE	1	NW	7	W	5	Cu; FrCu; Ci	10- 3	Ci; ACu	1- 3	Heavy mist early; fires in N and E
21	735.9	27.2	49	34.9	16.8		4.7	WSW	1	ESE	3	NNW	3	WNW	6	Ci; ASt; CuNb	4- 6	CiSt; ACu; ASt	7-10	Light rains in am; distant fires
22	736.7	21.4	84	27.6	19.7	0.05	1.4	W	2	WSW	1	W	2	WSW	6	ACu; ASt; StCu; CuNb	10	ACu; StCu	10	Light rain in am
23	738.7	21.1	52	31.1	16.2		10.9	SW	4	SSW	5	SW	3	WSW	9	Ci; CiSt; ACu; ASt	6-10	Ci; CiSt; ACu	7-10	
24	738.6	22.5	52	37.1	14.7		3.7	WSW	4	SSW	3	E	2	WSW	5	Ci; CiSt; ACu; ASt	7-10	Ci; CiCu; ASt	7-10	
25	740.1	32.4	28	43.3	20.3		6.4	SSW	2	NNE	1	ENE	6	NW	1	CiSt; ACu; ASt; StCu	6- 8	ACu; Cu; CuNb	7- 8	Thunderstorm in evening
26	739.3	31.0	53	37.9	21.6	0.06	2.7	..	0	ENE	3	WNW	9	W	2	ACu; ASt	4- 7	StCu	7- 8	Lightning in pm
27	741.4	21.8	66	30.2	18.8		10.5	W	8	SW	11	SW	6	WSW	6	Ci; ACu; Cu; StCu	9- 3	Ci	1- 3	
28	741.9	20.9	39	33.7	15.3		11.3	S	12	S	12	SSE	10	SSW	4	Ci; ACu	1- 3	Ci; Cu	1- 3	Fires in NE and SE
29																				
30																				
31																				
SUM						0.11														
MEAN	738.7	26.6	43	35.4	18.4		8.3	4.1		6.5		7.0		5.1						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 491

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1				[113	118	128	131]	—	—	—	—	185	244	261	243	212	195	184	164	141	125	115	115	[118	100	79	115]		1
2	✓	✓		149	167	175	180	180	190	185	166	128	120	120	115	115	113	115	134	133	[85	48	62	38	54	77	56]	121	0
3	✓			[52	49	49	56	62	61	66	72	77	85]	121	148	161	159	[131	64	97}	77	93	84	102}	[107	98	102]	91	2
4	✓	✓	✓	[113	98	97	113]	131	136	148	157	148	143	169	180	169	161	141	118	[98	89	82	98	100	103	87	72]	123	0
5	✓			[67	62	61	77]	116	134	144	154	159	169	167	162	161	164	154	153	[30	18	33	26	51	· 33	62	39]	100	1
6	✓	✓		[48	49	64	75	66	66	59	98]	139	131	[77	92]	113	(105	97)[	56	33	18	16	46	64	103	115	108]	77	0
7				[110	100	80	84	85	84	85	93	98	103	112	116]	133	131	[97	14	20	20	14	21	84]	125	131	138		0
8	✓	✓	✓	144	139	141	169	164	141	149	131	141	139	146	133	131	136	136	121	108	116	130	131	146	148	138	126	138	0
9	✓	✓		126	130	139	136	138	144	144	167	162	149	138	125	118	125	130	130	133	131	[116	82	98	113	98	100]	128	0
10				[103	102	108	112	118]	120	112	115	118	134	136	154	169	167	180	184	175	[120	59	61	75	82	84	98]		0
11				[97	84	82	82]	—	—	—	—	164	175	190	197	185	174	164	161	148	125	141	[93	67	62	71	82]		0
12	✓	✓	✓	[103]	121	134	141	138	141	136	130	148	148	148	154	156	175	171	148	157	161	162	164	148	[131	105]	138	144	0
13	✓	✓		139	141	131	126	146	198	233	235	228	197	174	[146	133	(95)	120	82	56	100]	154	157	190	197	197	230	159	1
14	✓	✓		233	215	246	256	279	276	246	241	213	207	180	175	167	[159	108]	146	153	148	[131	141]	136	131	162	167	188	0
15	✓	✓		189	179	180	197	207	213	223	230	213	208	189	185	171	174	174	166	161	136	120	131	[84	93]	125	141	170	0
16	✓	✓		161	146	161	180	225	271	277	277	274	225	198	192	187	171	161	159	[128	118	82	92	133	107	80	98]	171	1
17	✓	✓		[98	138]	180	195	198	210	249	213	134	125	136	[113	66	80	59	51	34	51	34	43	82	87	107]	146	118	0
18	✓	✓		153	149	161	164	131	120	136	164	171	167	175	148	121	[56	36	30	31	71	118]	136	144	143	131	123	124	0
19	✓	✓	✓	149	171	190	[256]	241	243	233	187	162	161	164	164	164	159	149	[115	131]	148	148	148	161	162	164	169	172	0
20	✓	✓		180	185	195	207	[148	141	97	164]	215	207	207	187	190	(177)	164	161	159	162	159	149	157	153	148	154	169	0
21	✓			167	180	198	180	169	207	239	220	210	197	167	174	180	180	174	[120	56	87]	131	108	130	138	133	149	162	2
22				148	134	128	113	123}	80	105	100}	[153	146	133	141	148	148	133	153	130	113	121	103	80	98	110	120]		2
23	✓	✓	✓	[130	128	121	125	130	130	134	141	115	105	130	134	134	139	143	121	148	144	143	139	131	121	126	126]	131	0
24	✓			[130	131	133	131	131	130	141	162]	148	169	190	195	197	{139	125}	187	180	185	[148	85	80	102	131	153]	146	1
25	✓			175	202	226	246	282	276	{235	294}	312	280	271	220	180	166	133	141	{108	113	21	141	136	125	26	164}	186	2
26	✓	✓		166	169	169	171	179	198	230	223	220	228	216	{167}	174	169	162	149	154	149	164	{172}	184	154	161	157	179	1
27	✓	✓		[130	113	121	131	130	84	77	123]	115	115	108	115	115	(113)	84	82	84	80	[61	33	54	77	66	66]	95	0
28	✓	✓	✓	[64	72	49	67	108]	148	161	141	149	169	179	159	175	174	164	146	161	[98	90	108	87	125	151	180]	130	0
29																													
30																													
31																													
MEANS * 23 DAYS				133	136	144	156	161	168	171	178	173	167	164	156	151	143	132	121	110	108	104	108	115	118	117	129	140	
MEANS † 18 DAYS				138	139	147	160	163	169	173	177	171	164	159	149	144	138	129	118	115	111	109	113	119	122	124	131	141	
MEANS ‡ 8 DAYS				141	140	145	166	175	178	179	170	161	160	163	160	158	160	148	135	140	130	130	136	137	140	141	151	152	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION {}=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

FEBRUARY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				[89	76	76	77	70	77	71	120]	176	233	254	234	200	190	178	154	134	114	109	107	[100	85	65	106]		1
2	✓	✓		141	165	172	175	178	179	178	156	120	114	106	100	98	97	106	120	120	[70	40	56	33	46	61	46]	112	0
3	✓			[44	43	36	40	46	49	46	46	53	76]	106	146	164	158	[114	55	76	64	≷ 29	61 ≶	[88	80	70	74]	74	2
4	✓	✓	✓	[85	79	76	91]	110	113	120	147	134	117	147	176	172	168	135	103	[85	85	68	94	91	95	76	61]	110	0
5	✓			[59	56	46	61]	110	120	134	140	153	160	165	167	162	164	156	154	[33	18	30	23	24	26	47	38]	94	1
6	✓	✓		[32	46	49	65	59	59	52	80]	137	120	[61	73]	94	98	(94)	[46	30	21	15	30	47	85	85	76]	65	0
7				—	—	—	—	—	—	—	—	[92	77	91	97]	120	122	[85	15	20	20	15	20	71	89	85	85]		0
8	✓	✓	✓	[77	77	92]	125	116	104	109	110	109	114	120	120	117	120	125	113	92	100	109	110	117	107	[97	100]	108	0
9	✓	✓		[91	92	106	100	97]	109	119	164	164	149	131	113	109	112	114	114	120	122	[106	73	89	94	91	79]	111	0
10				[79	79]	—	—	—	—	—	—	110	120	129	147	156	154	165	172	165	[106	49	49	55	65	70	70]		0
11				[74	64	62	64	62	61	77]	150	167	179	193	204	204	180	168	158	147	114	126	[79	55	46	52	55]		0
12	✓	✓	✓	[85]	114	126	126	135	135	135	120	141	150	151	147	162	168	178	150	150	138	150	164	134	[110	85]	129	137	0
13	✓	✓		122	120	116	106	120	186	238	243	244	222	202	[153	79	77	(94)	73	43	92]	146	146	162	158	172	190	146	1
14	✓	✓	✓	189	186	183	208	238	244	242	256	234	222	205	196	191	[168	100]	141	147	164	[112	114]	120	120	147	164	179	0
15	✓	✓	✓	169	172	176	202	205	208	219	235	220	219	205	208	191	182	182	169	162	129	106	103	[71	73]	114	129	169	0
16	✓	✓		150	129	128	150	196	264	271	281	261	219	197	200	191	165	150	144	[120	106	73	76	119	89	64	85]	160	1
17	✓	✓		[77	88]	150	161	178	209	235	197	131	129	138	[104	61	76	46	40	24	40	30	21	44	74	88]	95	102	0
18	✓	✓		107	137	140	164	122	114	117	134	164	169	180	150	120	[33	30	24	30	61	100]	109	106	94	[79	74]	107	0
19	✓	✓	✓	106	112	134	[194]	190	211	212	165	147	147	156	167	172	167	158	[109	135]	138	134	120	134	135	123	117	149	0
20	✓	✓		123	146	147	149	[110	82	67	137]	200	191	194	193	189	189	(180)	165	154	158	150	126	126	[156	149]	[79]	148	0
21	✓			[107]	149	149	≷ 134	86 ≶	178	194	191	200	172	153	153	183	187	179	[132	35	71]	116	97	103	109	95	116	137	2
22				—	—	—	—	—	—	—	—	[138	106	98	98	107	114	109	132	106	91	106	85	68	71	76	82]		2
23	✓	✓	✓	[86	94	91	82	80	94	109	114	110	120	113	110	112	110	112	141	122	119	110	107	106	102	100	104]	106	0
24	✓			[100	97	95	85	76	76	92	135]	137	150	168	178	167	≷ 189	196 ≶	147	153	147	[125	65	61	71	91	107]	121	1
25	✓			135	172	179	186	239	245	≷ 264	257 ≶	284	271	271	232	186	161	120	120	≷ 91	94	85	160	122	91	230	168 ≶	182	2
26	✓	✓		≷ 169 ≶	137	119	112	135	164	194	211	216	229	230	≷ 201 ≶	182	176	169	151	149	146	141	≷ 146 ≶	138	134	109	113 ≶	162	1
27	✓	✓		[92	79	97	125	120	76	59	106]	109	106	100	112	97	94	(71)	62	67	67	[47	24	43	65	56	49]	80	0
28	✓	✓	✓	[50	61	46	61	94]	138	140	135	150	175	179	160	172	175	156	141	151	[94	77	91	58	100	134	165]	121	0
29																													
30																													
31																													
MEANS * 23 DAYS				104	111	115	126	132	146	154	163	166	163	160	155	147	141	129	114	100	98	91	92	93	96	103	103	126	
MEANS † 18 DAYS				108	113	119	133	138	149	156	166	166	162	156	149	139	132	122	111	106	103	95	95	97	102	102	103	126	
MEANS ‡ 8 DAYS				106	112	116	136	146	156	161	160	156	158	160	160	161	157	143	133	130	121	113	118	115	116	117	129	137	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 493

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		78	80	74	80	69	54	57	59	66	67	73	72	71	74	75	75	80	79	93	122	92	60	N 70	N 44	74	1
2				108	187	157	125	117	85	64	67	61	66	64	62	62	74	103	Z	N108	67	-66	41	66	147	Z+	Z+		1
3				407	Z+	318	Z+	430	345	410	374	238	126	79	79	88	88	118	139	154	173	Z	N273	291	284	263	—		1
4				—	—	—	—	—	—	—	—	111	98	93	95	84	76	94	157	Z	Z	75	71	67	56	66	71		1
5				89	75	75	Z	61	66	58	68	61	56	51	60	75	85	83	80	N 88	85	Z	N113	176	154	169	154		1
6				175	Z+	106	224	267	143	98	109	102	107	118	103	92	73	Z	Z	Z	109	98	134	154	159	137	100		1
7				75	88	80	79	77	75	71	114	117	117	103	103	105	84	103	163	Z+	161	149	135	N 55	N 43	-38	-166		1
8				Z	-163	-93	-66	-38	-23	-10	-9	-6	-10	-46	-216	Z-	Z-	-102	N 57	51	N 57	64	69	70	79	95	N 70		2
9	✓	✓		65	94	84	75	70	106	116	112	121	75	57	64	61	75	78	79	98	108	111	107	109	121	122	118	93	0
10	✓	✓	✓	117	104	104	89	87	75	75	78	66	70	65	79	86	99	93	102	90	89	89	102	103	99	98	94	90	0
11	✓	✓	✓	80	77	70	78	64	52	46	45	43	48	59	65	66	70	81	94	103	125	160	149	164	122	117	115	87	0
12	✓	✓	✓	126	120	110	98	103	69	66	80	96	88	96	95	95	107	108	104	116	132	131	134	134	121	126	135	108	0
13				—	—	—	—	—	—	—	93	104	103	103	102	103	117	122	128	141	160	157	152	150	158	161	185		0
14	✓			212	207	204	175	146	122	92	75	70	67	70	74	73	76	88	105	102	118	116	121	150	141	122	112	118	0
15	✓	✓	✓	121	113	123	91	102	97	89	80	84	87	85	93	99	108	121	121	134	146	145	122	119	107	108	100	108	0
16	✓	✓	✓	90	118	128	120	102	89	80	82	71	75	70	73	78	79	87	94	81	88	95	123	136	127	116	103	96	0
17	✓	✓	✓	102	108	90	84	82	66	57	53	70	66	64	66	75	79	65	71	61	71	56	94	119	117	118	107	81	0
18				84	70	89	69	67	-18	-101	71	48	80	70	81	67	85	104	113	109	Z	Z	Z	67	91	95	94		2
19	✓			145	81	69	76	56	30	56	70	248	149	168	118	83	109	65	78	93	94	92	100	97	99	94	91	98	0
20				84	77	75	Z	Z	127	120	Z	Z	Z	Z	Z	Z	Z	Z	78	78	82	88	97	102	101	90	102		2
21	✓	✓	✓	107	103	104	94	94	99	91	70	62	61	80	77	66	75	83	97	94	103	113	120	134	136	123	112	96	0
22	✓	✓	✓	107	89	81	79	69	59	61	57	55	53	51	56	56	59	63	67	70	70	66	78	89	99	118	102	73	0
23	✓			89	91	91	78	62	54	51	49	47	47	48	56	56	64	64	76	72	75	67	70	88	83	81	82	68	0
24	✓	✓	✓	80	76	67	59	58	53	57	50	53	52	49	56	59	60	63	68	71	72	54	61	69	78	61	56	62	0
25	✓	✓		57	53	50	55	56	42	54	56	62	60	63	58	56	70	70	56	42	43	45	70	85	73	52	-17	55	1
26				N 24	63	-23	-122	Z-	-1	62	58	70	93	75	N 44	65	N 13	N 60	66	62	61	62	67	69	74	71	71		2
27	✓			64	90	66	96	103	155	80	61	70	71	78	75	70	66	67	75	76	80	64	93	108	112	137	155	88	0
28	✓			150	145	148	147	136	110	80	75	61	62	61	66	63	71	66	67	70	75	82	94	113	113	104	88	94	0
29	✓	✓	✓	75	79	78	71	71	67	59	69	71	71	62	66	65	75	74	66	74	71	62	68	85	70	80	75	71	0
30	✓			75	71	66	59	54	47	44	51	56	57	56	56	56	64	63	63	66	61	56	51	47	46	42	39	55	0
31	✓			36	42	46	43	47	56	53	64	64	64	61	64	61	70	58	74	69	94	127	113	118	131	167	179	76	0
MEANS * 20 DAYS				99	97	93	87	81	74	67	66	70	69	70	71	70	77	81	88	84	90	91	100	106	103	103	94	85	
MEANS † 13 DAYS				93	93	89	83	82	73	71	69	71	67	67	72	74	77	81	88	88	92	94	104	111	102	101	88	84	
MEANS ‡ 10 DAYS				100	99	96	86	83	73	68	66	67	67	66	73	75	80	82	88	87	97	97	109	115	108	106	100	87	

DESIGNATIONS AND REMARKS:

*=ALL [illegible] DAYS †=ALL DAYS EXCEPT [illegible] ‡=SELECTED DAYS

( )=INTERPOLATED [illegible]=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME [illegible] POTENTIAL GRADIENT [illegible] INDETERMINATE POSITIVE VALUE [illegible] INDETERMINATE NEGATIVE VALUE

TABLE 494

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MARCH 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.2	29.9	23	39.9	20.7		8.8	SSE	3	ESE	11	ESE	4	WSW	2	Ci; CiSt; ACu	1- 6	Ci; CiSt; ACu	7- 8	Fires in SE and S
2	739.8	33.1	27	41.6	21.2		7.8	..	0	E	5	NNW	4	SW	5	Ci; ACu; ASt	1- 3	FrCu; StCu	4-10	Smoky in pm; thunder in early pm
3	739.3	32.0	41	39.4	19.9		8.4	S	1	NE	1	NW	8	SW	3	ACu; Cu	1- 3	FrCu; StCu	4- 8	Thunder in early evening
4	736.7	30.6	43	37.2	22.1		2.8	SW	1	SSE	4	E	7	E	1	ACu; ASt; Cu	7-10	Cu; CuNb; Nb	7-10	Smoky in am; smoky or dusty in evening; some rain in pm
5	735.5	31.6	49	39.7	23.0	0.02	4.6	S	3	S	1	NNE	9	WSW	3	CiCu; ASt; StCu	7-10	CiSt; StCu; CuNb	10- 3	Smoky in am; fires in NW in evening
6	734.5	26.3	66	37.8	23.7	T	5.2	NNE	1	SE	1	ENE	7	WSW	2	Ci; ACu; Cu; CuNb	7-10	ACu; Cu; Nb	6- 3	Few light rains; fires in NW
7	733.2	24.2	81	32.8	21.2	0.06	1.9	SW	2	SW	5	WSW	6	NW	1	ACu; ASt; Cu	7-10	Cu; StCu; Nb	7-10	Steady rain late in pm; heavy rain at night
8	729.2	20.6	100	25.7	20.2	2.88	0.2	S	4	SSE	11	ENE	14	WNW	7	Cu; StCu; Nb	10	Cu; StCu; Nb	10	Steady rain to middle pm
9	731.8	22.3	83	25.6	19.8	1.20	1.5	NW	2	SW	5	SSW	5	S	7	Cu; FrCu; Nb	7-10	Cu	7-10	Light rains in am
10	736.7	20.5	72	27.5	18.2		6.1	SSE	5	SSE	11	E	9	SE	5	ACu; ASt; Cu	10- 6	ACu; ASt; Cu	6- 3	Clear at night
11	736.6	25.3	58	32.2	17.2		10.0	SE	1	NE	3	WNW	6	SW	1	Cu; StCu	6- 8	Cu; StCu	6- 8	Lightning in NW in pm
12	738.1	21.1	81	26.1	18.0		7.9	..	0	SW	1	SSW	9	SSW	2	ACu; FrCu; Nb	6-10	Cu	6- 3	
13	743.0	18.3	67	24.7	12.5		11.1	S	2	ESE	10	SE	5	S	5		0		0	
14	744.5	19.9	67	29.5	12.9		11.1	S	3	SE	12	ESE	13	SE	11		0	FrCu	0- 1	
15	746.2	22.5	52	28.9	17.0		11.1	SE	6	E	13	E	12	SSE	5		0		0	Hazy with smoke
16	744.4	25.6	49	31.3	16.5		11.1	ENE	7	ENE	12	ESE	11	SE	7		0	Cu	1- 3	Smoky
17	742.2	26.7	40	34.0	18.4		10.1	ESE	7	ENE	7	E	4	SE	5	ASt; Cu; StCu	1- 6	ACu; ASt; Cu; StCu	4- 6	Lightning in NW in evening
18	738.7	26.2	66	28.6	19.4	T	1.7	WSW	1	NNE	1	NNE	2	..	0	ACu; StCu; Nb	10- 7	ASt; StCu; Nb	7-10	Thunderstorms in pm; cleared somewhat in evening
19	740.0	20.0	39	25.0	17.8	1.63	4.7	S	2	SSW	3	SE	12	SE	11	Cu; StCu; CuNb; Nb	10- 7	ASt; StCu; CuNb; Nb	7-10	Lightning in N in pm
20	742.4	14.9	83	20.2	13.8	0.05	0.2	ESE	11	ESE	11	SSE	3	SE	4	ACu; StCu; Nb	10	Ci; ASt; ACu; Cu	9- 3	Thunderstorms from early hours through day
21	742.5	16.6	69	23.9	9.7	0.21	10.9	SE	5	ESE	8	SE	7	SE	7		0		0	
22	744.4	17.7	63	25.3	12.5		11.0	SE	3	ESE	9	E	4	SSE	5		0	Ci	1- 3	
23	743.7	20.0	51	28.2	11.8		10.7	SSE	3	ESE	5	E	5	SSE	4	Ci	1- 3	Ci	1- 3	
24	744.5	22.2	42	29.3	12.4		10.7	SE	3	ENE	5	ENE	9	ENE	1		0		0	Fire in W in pm
25	741.4	23.8	35	32.2	14.7		7.9	E	3	NE	9	NNE	3	SW	4	Ci; ASt; StCu	2- 6	Cu; StCu; Nb	7-10	Steady rain in late pm
26	738.5	20.1	87	23.2	17.8	0.40	10.4	ENE	2	NE	3	NW	5	N	2	ACu; ASt; StCu; Nb	7-10	Cu; StCu	4- 6	Rain
27	738.6	20.6	72	26.7	14.2	0.03	....	WNW	2	S	1	S	3	S	5	ACu; Cu	3- 6	ACu; ASt; Cu	4- 6	Fog early
28	740.4	20.8	63	27.9	13.5	T	10.7	S	3	ESE	11	ESE	11	SSE	5	ACu	1- 3	ACu	3- 6	
29	740.5	21.6	57	26.7	15.4		9.7	ESE	4	ESE	12	ESE	12	ESE	3	ACu	1- 3	ACu	1- 3	
30	737.4	22.9	60	26.9	13.8		6.1	SE	2	ESE	7	ENE	11	..	0	ASt; Cu	1- 3	Cu; StCu	4- 8	
31	735.8	24.5	58	28.7	18.4		7.5	..	0	NE	1	SSW	6	S	9	ASt	1- 3	ASt; ACu	4- 6	
SUM						6.48														
MEAN	739.4	23.4	60	29.9	17.0		7.4	3.0		6.4		7.3		4.3						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 495

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		198	199	206	218	236	254	267	250	210	209	193	187	176	173	173	159	159	159	151	97	108	124	137	138	183	1
2	✓			111	64	78	102	124	154	182	218	218	207	192	192	174	173	170	140	82	75	97	110	93	60	30	36	128	1
3				36	47	—	—	—	—	—	—	77	119	155	173	165	152	97	47	63	80	41	22	47	60	63	74		1
4	✓			78	78	80	78	107	119	135	154	159	159	154	157	160	157	141	122	151	231	190	209	209	206	207	203	152	1
5	✓			204	203	204	204	279	262	278	264	265	256	272	264	217	190	171	176	140	157	138	171	127	124	119	138	201	1
6				138	155	143	53	77	—	—	—	157	144	126	107	148	(160)	119	82	96	140	144	116	110	115	135	132		1
7				111	96	105	—	—	—	—	—	122	113	115	141	146	168	132	85	88	93	99	124	102	127	110	94		1
8	✓			63	75	42	63	77	47	63	78	118	72	75	104	132	89	121	159	192	203	195	226	215	195	179	181	124	2
9	✓	✓		182	185	177	184	195	185	168	173	188	192	187	185	174	162	152	144	154	160	151	160	171	166	170	179	173	0
10	✓	✓	✓	182	185	203	201	206	217	231	221	209	209	204	190	160	143	141	152	173	179	157	151	157	160	168	188	183	0
11	✓	✓	✓	192	236	239	253	276	283	312	347	316	270	236	214	193	182	176	141	157	130	94	130	126	126	119	126	203	0
12	✓	✓	✓	118	133	140	137	141	190	206	192	141	141	151	154	154	151	148	146	143	138	141	144	141	163	174	177	153	0
13	✓			187	198	173	160	141	141	143	160	154	152	140	135	126	(126)	119	115	99	97	96	100	105	104	108	105	133	0
14				94	—	—	—	—	—	—	—	(256	251)	234	225	209	203	182	151	151	141	141	141	122	141	171	188		0
15	✓	✓	✓	195	215	232	234	243	250	261	267	245	226	210	190	173	133	119	115	115	115	99	118	133	141	144	171	181	0
16	✓	✓	✓	207	204	204	214	221	223	226	254	220	225	220	210	179	154	146	152	143	140	146	118	116	138	162	176	183	0
17	✓	✓	✓	204	218	231	240	251	261	275	278	257	223	203	195	141	129	173	188	177	182	179	121	119	135	157	182	197	0
18				221	246	226	264	251	198	152	220	218	206	187	179	203	195	188	179	181	68	119	110	234	187	185	173		2
19				143	198	184	162	154	110	52	44	47	46	64	94	140	160	154	157	155	148	141	141	155	148	170	182		0
20				192	198	204	170	251	251	240	251	251	82	75	82	160	182	256	234	210	192	182	160	168	168	174	177		2
21	✓	✓	✓	166	182	207	218	214	210	223	237	239	229	173	173	185	176	154	144	133	121	110	110	111	111	113	127	169	0
22	✓	✓	✓	148	187	198	220	251	268	253	234	239	234	220	220	225	231	218	204	203	198	179	166	143	130	126	135	201	0
23				146	173	198	220	245	278	308	330	349	345	317	279	246	215	204	174	171	173	177	182	157	163	179	203		0
24	✓	✓	✓	228	242	261	289	300	294	289	283	265	245	232	207	195	192	179	179	179	188	204	176	188	187	250	267	230	0
25	✓	✓		275	292	301	309	303	325	305	295	265	237	236	223	195	144	168	130	195	204	177	141	182	204	185	201	229	1
26				192	188	170	146	107	179	192	201	188	182	173	170	174	174	173	173	190	188	188	196	214	220	206	203		2
27				204	188	204	154	170	124	207	232	204	184	174	176	173	(173)	170	171	160	168	173	130	126	126	121	110		0
28				105	102	102	108	113	138	162	204	234	228	188	159	174	187	188	188	187	179	157	140	126	133	157	193		0
29	✓	✓	✓	206	207	236	254	253	254	253	237	250	246	232	234	236	215	188	162	171	192	181	185	188	234	245	253	221	0
30				251	250	265	286	330	336	342	353	334	283	270	256	237	232	229	234	236	231	215	206	209	229	267	286		0
31				319	331	330	333	334	330	334	344	287	256	236	226	218	220	188	130	143	155	102	129	133	124	99	94		0
MEANS * 18 DAYS				175	184	190	199	212	219	226	230	220	207	196	191	178	162	159	152	154	159	149	146	146	150	155	166	180	
MEANS † 13 DAYS				192	207	218	229	238	247	251	251	234	222	207	199	184	168	164	155	162	162	151	140	145	155	165	178	193	
MEANS ‡ 10 DAYS				185	201	215	226	236	245	253	255	238	225	208	199	184	171	164	158	159	158	149	142	142	152	166	180	192	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MARCH 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		186	184	195	201	219	246	256	248	221	220	197	183	178	170	172	149	140	142	[128	82]	93	115	117	129	174	1
2	✓			[104	55	52	71	90	126]	171	186	212	214	210	191	194	188	166	147	79	70	118	112	[90	56	29	27]	123	1
3				[27	27	27	21	18	29	26	24	46	108]	172	194	175	150	[84	38	47	65	65	23	30	30	30	36]		1
4	✓			[46	46	46	44	80	91]	111	136	149	142	136	136	154	149	154	132	132	104	224	188	184	191	176	190	131	1
5	✓			190	176	194	210	373	361	359	352	361	363	270	263	219	204	187	187	136	150	172	149	[100	90	82	94]	218	1
6				[90	107	124	55	56]	104	110	115	122	119	103	104	155	154	(110)	104	79	121	132	[96	76	90	103]	—		1
7				—	—	—	—	—	—	—	—	122	112	122	128	126	146	118	93	61	[80	89	103	94	133	142	136		1
8	✓			167	171	167	195	206	263	265	336	272	251	287	307	252	286	171	155	183	200	188	204	194	172	159	159	217	2
9	✓	✓		158	155	136	138	146	142	131	146	159	172	175	168	163	150	140	136	136	146	142	136	147	(146	157	167)	150	0
10	✓	✓	✓	(170	172)	172	176	186	194	195	200	199	210	201	204	172	159	135	135	149	159	135	118	122	125	132	150	165	0
11	✓	✓	✓	147	186	188	199	232	(262	295	340)	309	270	231	203	194	182	174	132	146	[132	91	110	90	89]	(107	108)	184	0
12	✓	✓	✓	(107	105)	94	107	136	179	188	(179)	124	138	142	143	145	146	142	132	126	114	104	103	104	94	97	107	127	0
13	✓			118	133	118	100	101	93	104	159	150	140	133	119	111	110	(97)	[89	79	76	71	70	77	80	79	74]	103	0
14				[70	77	73	80	104	132]	180	224	241	240	229	224	211	201	180	140	143	133	135	129	[104	122]	149	172		0
15	✓	✓	✓	179	194	190	212	222	224	235	252	242	227	208	191	167	122	107	104	[103	84	76	84	97]	104	104	126	161	0
16	✓	✓	✓	172	172	172	178	190	194	190	224	235	222	222	220	184	154	146	140	138	133	[128	98	93	121]	145	172	168	0
17	✓	✓	✓	195	199	211	224	208	222	260	289	267	234	201	191	[131	112	164]	174	159	166	154	[103	98	110	136	159]	182	0
18				188	203	194	205	212	210	204	172	205	196	186	178	200	183	159	155	149	—	—	194	204	140	112	122		2
19				90	163	146	—	—	—	—	—	[32	43	47	84]	118	140	150	147	146	140	133	132	143	142	161	172		0
20				186	192	199	196	129	226	225	210	162	282	295	217	103	124	—	—	190	170	151	132	136	132	132	146		2
21	✓	✓	✓	132	151	183	183	170	170	174	222	246	229	174	178	178	161	140	125	118	104	94	93	90	93	93	90	150	0
22	✓	✓	✓	112	142	159	178	217	247	236	236	235	235	225	215	222	220	208	184	180	166	149	146	117	104	96	104	181	0
23				115	—	—	—	—	—	—	—	365	351	322	272	235	203	199	159	154	154	149	150	125	132	142	167		0
24	✓	✓	✓	192	200	216	253	265	262	268	277	260	245	227	206	196	190	164	167	170	171	183	[149	133	140	209]	226	207	0
25	✓	✓		230	256	274	279	261	285	272	271	251	231	222	215	190	124	146	111	170	172	161	119	154	172	172	222	207	1
26				201	164	184	212	—	—	—	—	170	146	159	186	170	186	168	162	172	176	172	171	172	179	195	—		2
27				—	—	—	—	—	[110	201]	—	[190]	159	154	161	166	163	(159)	155	146	132	146	[112	105	104	90	86]		0
28				[65]	—	—	—	—	—	—	—	231	203	[190	171	186]	195	194	187	186	161	132	114	104	105	128	159		0
29	✓	✓	✓	175	184	210	235	248	263	271	246	247	246	224	232	234	210	186	[147	157	104	158	155	157	186]	204	212	206	0
30				205	210	221	257	—	—	—	—	332	279	272	247	224	214	210	210	212	197	175	171	161	170	222	243		0
31				271	279	281	284	294	287	303	295	257	241	235	224	214	211	[186	118	132	143	94	111	114	103	79	73]		0
MEANS * 18 DAYS				154	160	165	177	197	212	221	239	230	222	205	198	182	169	156	141	139	136	138	123	119	122	127	140	170	
MEANS † 13 DAYS				166	177	185	197	208	222	229	241	230	221	204	196	181	162	156	141	146	143	131	115	115	123	136	152	174	
MEANS ‡ 10 DAYS				158	171	180	194	207	222	231	246	236	226	206	198	182	166	157	144	145	139	127	116	110	117	132	145	173	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 497

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈168	126⌋	87	97	97	69	66	63	63	57	N 35	48	62	142	143	76	78	95	100	98	86	82	80	95	88	1
2	✓	✓	✓	87	74	58	78	78	72	81	81	71	81	86	87	100	⌈115	119	126⌋	115	102	108	109	101	76	71	70	89	0
3	✓	✓	✓	71	70	71	76	67	58	56	57	53	52	56	61	64	72	86	85	67	⌈ 90	90	93	65⌋	57	64	81	69	0
4				71	72	73	77	55	54	43	50	Z	Z	Z-	Z	Z-	Z-	Z-	129	68	N 43	N 61	120	77	69	67	72		2
5				70	61	62	99	82	Z	−14	68	76	69	63	66	58	72	53	48	62	75	80	92	101	86	90	96		1
6	✓	✓	✓	105	105	104	86	73	85	71	72	76	76	76	87	85	81	86	78	98	86	84	82	94	100	98	99	87	0
7	✓	✓		91	N 24	105	111	109	96	64	76	96	81	77	53	48	57	68	77	62	57	76	71	48	34	49	81	71	1
8				72	109	114	111	85	29	Z	Z	Z	Z	Z	58	N 18	24	N 41	32	47	62	81	73	75	80	66	73		1
9	✓	✓		95	87	87	82	73	70	62	57	47	52	50	43	44	48	62	61	66	72	71	84	95	83	66	76	68	0
10	✓	✓		83	82	⌈ 80	140	87	72	103	97	72	48⌋	49	57	67	62	68	72	72	⌈ 81	100⌋	90	77	77	84	86	79	0
11	✓	✓	✓	88	86	66	65	56	53	⌈ 53	53	62⌋	85	73	74	72	86	82	95	99	96	91	86	(88)	91	⌈ 73	76⌋	77	0
12				⌈132	167	234	176	166	154	132	234	91⌋	76	81	78	91	90	94	100	95	85	59	61	71	71	72	—		0
13				—	110	91	85	75	53	57	56	−7	Z-	−86	115	38	−43	81	Z-	Z-	Z-	Z-	−111	93	98	N 51	106		2
14	✓	✓	✓	⌈119	141	143	135	124⌋	105	106	119	157	148	124	120	125	114	124	124	124	123	117	114	115	110	110	109	123	0
15	✓			96	87	100	104	90	85	77	77	81	97	88	89	86	92	87	114	110	105	106	96	86	106	82	66	92	0
16				—	—	—	—	—	—	—	—	71	72	77	N 56	96	92	Z	Z	109	87	96	116	138	132	143	129		1
17	✓	✓	✓	120	124	⌈154	162	152	146	128	128⌋	118	109	101	96	97	101	110	110	106	102	87	81	91	110	125	115	116	0
18	✓	✓	✓	114	115	114	109	98	85	72	71	66	66	77	97	118	114	118	121	109	94	99	96	135	120	121	116	102	0
19	✓	✓	✓	107	96	94	98	96	91	93	96	96	89	95	104	103	100	104	98	105	96	87	97	⌈167	134⌋	114	118	103	0
20				122	—	—	—	—	—	—	—	75	71	67	76	77	78	85	86	86	78	68	67	76	48	52	95		0
21	✓	✓	✓	80	76	81	76	67	68	61	59	67	84	81	81	86	97	114	109	106	88	86	90	91	97	96	95	85	0
22	✓	✓	✓	96	90	83	70	57	57	58	61	77	79	91	96	100	99	91	95	101	106	101	109	105	119	115	112	90	0
23	✓	✓	✓	99	105	105	96	85	84	79	81	82	89	95	87	98	101	101	103	100	91	82	81	87	87	77	63	90	0
24	✓	✓	✓	77	80	72	70	62	62	48	53	72	85	85	94	92	96	97	98	96	78	74	91	83	95	98	79	81	0
25	✓	✓	✓	72	70	70	61	53	52	51	50	56	59	72	80	85	86	91	92	84	66	62	72	71	75	72	71	70	0
26	✓	✓	✓	71	68	62	59	61	57	52	54	57	58	57	73	72	71	77	73	77	72	61	58	67	72	77	72	66	0
27	✓	✓	✓	72	61	66	66	61	53	54	56	62	70	67	70	72	82	76	86	80	63	62	65	67	76	73	81	68	0
28	✓	✓	✓	81	79	76	72	63	59	56	56	59	65	67	72	72	82	80	72	72	68	62	57	72	72	77	72	69	0
29	✓	✓	✓	70	66	67	58	62	56	48	53	52	63	67	76	81	82	81	82	81	56	56	51	67	66	72	87	67	0
30	✓	✓	✓	67	67	68	63	58	48	43	43	43	44	49	57	63	68	68	77	75	54	57	58	48	48	53	62	58	0
31																													
MEANS * 23 DAYS				93	86	88	88	80	73	69	70	73	76	75	78	82	89	93	92	91	84	83	84	87	86	85	86	83	
MEANS † 22 DAYS				92	86	87	88	79	73	68	70	73	75	74	78	82	89	93	91	90	83	82	83	87	86	85	87	83	
MEANS ‡ 18 DAYS				89	87	86	83	76	72	67	69	74	78	79	84	88	92	95	96	94	85	81	83	90	89	88	88	84	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ⌇ ⌇=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 498

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

APRIL 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	739.5	17.6	67	19.6	17.0		1.5	SSE	10	SSE	12	SE	13	SE	12	ASt; Cu; StCu	7-10	ASt; StCu	7-10	
2	744.0	17.0	57	23.1	13.1		6.2	SE	14	ESE	14	ESE	14	ESE	7	ASt; Cu; StCu	9- 6	ASt; FrCu	4- 6	Fire in SE
3	743.7	18.3	66	25.7	11.8		6.3	ESE	6	ESE	11	E	16	E	19	Cu; StCu	6-10	ASt; FrCu; StCu	6- 8	
4	741.6	17.3	86	17.6	16.4	0.34	0.1	E	11	E	9	E	15	E	8	ASt; Cu; Nb	10	ASt; Cu; Nb	10	Rain from early hours and throughout day
5	738.7	16.7	82	20.1	14.6	0.75	0.5	SE	4	SE	11	SSE	11	SSE	9	StCu; Nb	10	St	10	Rain
6	743.1	17.2	75	21.3	14.2		3.5	S	3	SE	15	ESE	12	ESE	5	Cu; StCu; Nb	10	CiSt; ASt; Cu; StCu	7- 9	
7	743.1	19.1	63	20.1	15.5		2.5	ESE	9	E	12	E	14	E	6	ASt; Cu; FrCu	7-10	ASt; StCu	10	Dew early
8	741.6	15.8	93	18.1	14.4	0.29	0.0	E	8	ESE	5	E	7	ESE	11	Cu; Nb	10	Cu; Nb	10	Rain in early hours or previous night
9	740.3	17.6	86	21.5	15.4	0.02	1.0	ESE	5	ESE	4	ESE	3	S	2	StCu; Nb	10	Cu; StCu	6- 9	Rain in am; clear at night
10	737.3	17.9	94	26.1	13.7	0.01	6.1	S	1	ESE	1	WSW	1	SSW	2	ACu; StCu	5-10	StCu	4- 6	Heavy mist early
11	737.4	20.8	75	25.6	12.5		8.2	W	1	WNW	1	W	3	WSW	1	Cu; FrCu	5- 8	ACu; StCu	6- 3	Heavy mist early
12	741.3	19.8	85	26.5	11.2		6.0	..	0	..	0	NE	5	..	0	Ci; CiSt; ASt; StCu	5- 8	ACu; ASt	7-10	Light mist early
13	742.1	18.5	95	21.1	18.3	0.10	0.0	..	0	NE	1	ENE	6	NW	7	ACu; StCu; Nb	10	ACu; StCu; Nb	10	Rain before 9h and throughout day
14	743.8	20.4	82	24.8	16.3	1.62	8.7	SW	4	SSW	4	SW	3	SSW	2	ACu; Cu	3- 6	ACu; Cu; StCu	4- 6	
15	744.4	19.4	65	22.7	14.2		5.1	..	0	SSE	1	SSW	4	SW	4	ASt; Cu; StCu	6-10	ASt; Cu	10- 3	
16	743.4	17.5	80	18.8	11.0		1.1	..	0	..	0	W	2	SW	2	Cu; StCu; Nb	10	Cu; Nb	10- 3	Rain in early pm
17	746.5	15.0	78	19.7	9.8	0.24	10.4	SSW	2	SE	4	ESE	8	SE	4	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Clear at night
18	744.6	17.4	59	23.2	8.7		8.8	S	2	ENE	3	W	1	SSW	4	ACu; ASt	4- 8	ACu; ASt	8- 3	Dew early
19	746.4	17.2	65	22.4	8.2		10.3	S	2	ESE	4	ESE	10	SSE	3		0	Cu	1- 3	Clear at night
20	750.1	15.5	70	22.8	10.5		10.3	ESE	5	ESE	8	E	6	SE	3		0	Cu	1- 3	Clear at night
21	750.3	17.8	55	22.8	8.9		10.3	SSE	2	E	1	ESE	6	SE	2	ACu	1- 3	ACu	1- 3	Clear at night
22	750.3	16.6	55	21.6	8.5		10.2	SE	2	ENE	8	E	9	SE	5		0		0	
23	749.2	16.1	55	22.2	10.2		10.2	E	4	ENE	10	ENE	6	ESE	3		0		0	
24	748.3	17.6	49	23.9	8.6		10.2	NE	3	NE	4	ENE	3	ESE	2		0		0	
25	748.1	17.6	52	25.4	6.7		10.1	SSW	1	NE	1	E	1	SE	4	Ci	1- 3		0	
26	749.4	18.3	38	24.6	5.9		9.9	SE	1	SE	1	ENE	6	ESE	4		0		0	
27	748.3	17.1	35	23.9	5.8		9.8	E	1	ENE	1	E	3	SE	4	Ci	1- 3	Ci	1- 3	
28	746.4	17.1	41	25.0	5.6		9.9	..	0	ENE	2	E	2	SSE	3		0		0	
29	743.9	16.7	49	24.1	6.0		9.8	S	2	ENE	1	ESE	1	SE	2	Ci	1- 3	Ci	1- 3	
30	742.0	17.8	43	26.9	7.1		10.0	S	1	NNE	1	NNE	3	SSW	1	Ci; ACu	1- 3	Ci; ACu	4- 8	
31																				
SUM						3.37														
MEAN	744.3	17.6	66	22.7	11.3		6.6	3.5		5.0		6.5		4.7						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 499

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈ 88	116⌋	130	138	135	134	128	129	135	128	128	135	147	148	150	148	138	146	146	144	146	146	147	150	137	1
2	✓	✓	✓	160	165	176	180	176	174	178	194	194	188	180	176	165	⌈120	102	108⌋	150	153	164	166	176	207	207	208	169	0
3	✓	✓	✓	225	240	254	254	260	284	286	298	288	278	255	225	183	(172)	153	150	147	⌈148	130	129	190⌋	212	240	234	218	0
4				225	230	238	225	237	250	255	255	—	—	≷165	220	140	164	166≶	225	219	≷184	165≶	176	218	225	220	232			2
5	✓			240	252	255	255	256	≷222	226≶	255	228	220	210	206	196	196	195	190	189	184	190	195	180	180	189	188	212	1
6	✓	✓	✓	180	≷182≶	206	210	200	192	195	195	182	180	178	176	170	174	172	176	174	182	195	206	196	204	208	210	189	0
7	✓	✓		220	198	212	225	226	240	244	254	226	207	196	196	192	194	188	183	195	195	198	207	206	189	177	206	207	1
8				≷225≶	219	200	202	210	216	≷150	112≶	—	—	—	222	225	226	237	246	238	238	242	255	250	252	255	260		1
9	✓	✓		255	255	250	270	272	278	273	276	286	274	272	272	272	272	268	262	262	⌈240	210	206	195⌋	242	261	268	258	0
10	✓	✓		273	260	⌈242	150	210	236	254	312	270	346⌋	326	270	240	226	(222)	212	210	⌈180	165⌋	196	210	210	213	252	237	0
11	✓	✓	✓	254	256	286	290	300	296	⌈249	322	300⌋	195	180	176	166	170	178	165	153	150	154	178	194	212	⌈255	244⌋	222	0
12	✓			⌈174	110	94	122	122	136	136	120	224⌋	258	224	214	196	195	200	195	195	208	225	226	242	255	262	258	191	0
13				240	210	222	255	240	240	248	272	≷250	180	206	182	180	190	210	134	105	75	93	210≶	210	176	177	184		2
14	✓	✓	✓	⌈206⌋	180	164	178	180	194	184	180	165	160	160	152	150	150	148	140	136	135	135	136	148	153	152	164	160	0
15				172	162	176	166	194	183	196	194	177	164	150	150	150	150	150	150	150	150	150	150	150	165	—	—		0
16				—	—	—	—	—	—	—	—	—	195	166	≷152≶	160	156	≷136	104≶	162	180	174	168	165	174	177	183		1
17	✓	✓	✓	196	183	⌈152	135	135	135	148⌋	180	182	180	180	178	165	150	153	154	166	170	165	172	166	152	154	160	163	0
18	✓	✓	✓	168	176	195	200	210	226	256	327	328	286	226	182	150	150	164	165	166	165	150	150	150	178	183	184	197	0
19	✓	✓	✓	180	182	194	183	182	183	183	224	207	180	148	144	147	148	148	150	152	165	166	177	⌈120	148⌋	166	165	168	0
20	✓			159	166	186	212	(219	225	232	240)	246	[255]	225	210	210	208	208	202	195	194	178	186	190	182	192	200	205	0
21	✓	✓	✓	222	228	237	242	255	262	274	286	270	226	225	200	180	166	150	138	164	170	166	165	154	158	162	176	203	0
22	✓	✓	✓	184	196	207	224	255	268	300	328	270	240	194	182	177	184	188	180	172	171	160	152	166	164	178	213	206	0
23	✓	✓	✓	242	242	254	250	254	258	270	272	254	238	216	206	190	189	188	186	182	176	165	176	180	178	230	280	220	0
24	✓	✓	✓	282	292	315	316	315	300	312	326	273	225	210	194	184	(180)	180	183	196	202	184	195	195	195	195	216	236	0
25	✓	✓	✓	240	255	255	284	288	304	316	330	326	282	254	213	183	180	166	164	178	182	180	194	194	212	226	240	235	0
26	✓	✓	✓	266	282	300	309	316	314	304	316	320	298	273	225	194	190	195	194	195	194	200	198	220	224	242	268	252	0
27	✓	✓	✓	284	296	297	285	284	300	303	326	300	266	254	236	212	210	210	206	196	194	172	177	188	225	244	256	247	0
28	✓	✓	✓	266	266	268	270	284	296	296	300	278	255	236	208	190	194	195	195	184	178	166	182	195	202	212	240	232	0
29	✓	✓	✓	264	284	288	300	310	316	330	350	330	298	236	212	194	188	186	182	178	176	172	178	195	208	200	208	241	0
30	✓	✓	✓	250	282	285	288	297	315	346	345	376	332	260	254	225	195	194	182	172	174	165	178	210	224	266	260	253	0
31																													
MEANS * 25 DAYS				219	222	228	231	238	244	249	267	258	240	218	202	187	182	180	176	178	177	172	179	184	194	206	218	210	
MEANS † 22 DAYS				223	228	235	236	243	250	256	276	262	239	218	201	185	180	177	174	176	175	169	176	182	193	205	218	212	
MEANS ‡ 18 DAYS				226	233	241	244	250	256	263	283	269	239	215	197	179	173	171	168	170	171	166	173	180	192	207	218	212	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

APRIL 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓		⌈ 69	96⌋	114	131	120	124	124	124	128	138	139	150	150	151	151	150	141	141	138	139	137	138	138	141	132	1
2	✓	✓	✓	155	162	175	179	178	176	176	188	202	190	184	174	160	⌈ 114	88	89⌋	135	148	150	142	155	190	193	201	163	0
3	✓	✓	✓	215	227	237	230	254	262	283	305	297	293	270	227	190	179	164	141	139	⌈ 139	123	124	175⌋	204	220	221	213	0
4				212	213	213	206	224	236	246	254	≷ 280	288	359	284	302	308	264 ≷	202	213	≷ 202 ≷	174	165	204	213	212	215		2
5	✓			225	230	242	≷ 234	248	288	281 ≷	248	226	213	201	199	193	189	179	175	173	165	162	162	151	155	160	153	202	1
6	✓	✓	✓	139	≷ 143 ≷	155	175	179	173	174	176	173	178	176	166	170	169	169	166	164	173	176	176	175	176	178	188	170	0
7	✓	✓		201	202	192	204	≷ 214 ≷	226	242	249	224	204	201	204	199	≷ 201 ≷	176	174	185	185	178	178	189	185	166	170	198	1
8				≷ 206 ≷	193	176	175	193	214	≷ 250	287 ≷	—	236	238	228	232	227	226	237	238	238	249	250	238	228	245	239		1
9	✓	✓		213	213	210	225	227	226	226	239	273	252	250	251	254	242	236	225	214	⌈ 204	153	139	176⌋	215	230	240	222	0
10	✓	✓		267	250	⌈ 236	162	214	232	260	330	284	308⌋	297	248	225	214	(192)	188	176	⌈ 151	124⌋	150	160	167	169	185	216	0
11	✓	✓	✓	202	201	204	227	236	234	⌈ 214	251	262⌋	179	164	170	165	152	151	143	124	118	111	122	137	143	⌈ 164	141⌋	176	0
12	✓			⌈ 92	77	56	70	81	85	88	81	201⌋	238	190	189	176	175	175	166	164	162	175	175	201	202	230	243	154	0
13				213	150	164	192	—	—	—	—	≷ 262	300	262	162	176	192	176	238	260	249	302	262	199 ≷	160	164	139		2
14	✓	✓	✓	⌈ 112	99	104	74	84	111	116	115⌋	123	122	124	124	134	126	112	109	105	96	96	100	112	107	109	101	109	0
15				—	—	—	122	115	133	142	150	151	138	135	131	135	133	124	124	115	112	100	100	111	109	115	124		0
16				—	—	—	—	—	—	—	—	225	175	138	≷ 135 ≷	115	124	127	≷ 124	114	107	100 ≷	97	86	99	111	109		1
17	✓	✓	✓	123	120	⌈ 99	78	82	93	101	99⌋	144	165	170	164	152	(150)	139	139	150	146	120	126	114	100	109	112	125	0
18	✓	✓	✓	123	137	150	152	169	188	214	265	286	272	215	175	138	123	118	127	124	122	100	109	109	127	142	164	160	0
19	✓	✓	✓	175	(174	173	170	169)	167	161	167	185	167	141	133	137	138	139	138	137	138	123	123	⌈ 70	97⌋	138	141	146	0
20	✓			139	151	162	162	178	188	202	213	222	[221]	218	202	202	194	182	176	167	162	139	139	142	139	150	151	175	0
21	✓	✓	✓	166	182	199	199	215	234	244	250	240	213	201	178	164	151	134	127	137	141	138	126	114	123	123	138	172	0
22	✓	✓	✓	151	158	175	197	226	237	278	298	261	222	188	176	164	167	175	164	150	141	123	119	135	137	139	176	182	0
23	✓	✓	✓	204	204	203	202	202	214	224	230	227	225	203	202	189	171	166	160	160	141	128	137	138	142	204	238	188	0
24	✓	✓	✓	238	248	265	266	271	262	277	284	250	215	203	183	178	179	(164)	151	152	160	139	114	138	146	139	188	200	0
25	✓	✓	✓	202	218	226	236	252	295	298	295	284	262	227	198	164	150	138	127	151	160	147	150	152	157	188	192	203	0
26	✓	✓	✓	214	236	256	262	283	284	283	286	286	273	264	209	180	176	178	178	176	164	175	164	175	188	180	203	220	0
27	✓	✓	✓	237	248	239	228	237	250	272	284	262	242	242	230	203	198	189	178	176	164	126	130	134	176	187	185	209	0
28	✓	✓	✓	208	218	225	230	238	254	250	249	238	231	216	193	176	166	164	166	162	153	138	150	150	160	167	197	196	0
29	✓	✓	✓	227	248	252	272	276	284	297	310	294	262	215	201	180	174	164	152	162	158	144	150	150	187	179	167	213	0
30	✓	✓	✓	214	226	255	262	273	292	316	329	346	309	257	249	237	198	180	165	151	152	153	160	189	207	238	218	232	0
31																													
MEANS * 25 DAYS				180	187	192	193	204	215	224	235	237	224	206	192	179	170	161	155	155	151	139	140	147	159	170	178	183	
MEANS † 22 DAYS				184	191	197	198	209	219	229	242	240	224	207	191	178	168	158	153	153	150	136	138	145	158	168	178	184	
MEANS ‡ 18 DAYS				184	192	200	202	212	223	232	243	242	223	203	186	171	160	152	146	148	145	134	135	140	154	166	176	182	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 501

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	72	64	53	48	49	48	38	38	⌈58⌋	38	42	48	53	64	61	62	53	57	91	76	66	76	76	87	59	0
2	✓			97	72	66	72	58	57	53	51	52	49	51	51	52	52	49	57	49	43	71	⌈77	113	118	132	157⌋	71	0
3	✓			⌈196	201	206	178	139	120	100⌋	85	65	58	53	53	53	60	67	63	61	53	56	61	62	66	68	70	91	0
4	✓	✓	✓	67	65	60	65	51	47	42	43	37	38	38	43	43	47	53	62	49	43	44	52	60	59	58	59	51	0
5	✓	✓	✓	58	62	53	62	53	48	43	44	40	48	57	63	76	76	77	76	66	52	63	62	62	67	66	58	60	0
6	✓	✓	✓	48	47	48	48	48	44	43	47	43	43	49	56	62	67	63	68	63	43	37	38	38	33	47	38	48	0
7				43	48	69	70	68	62	62	≷54	N 9	N 33	34	37	41	N 0	−22	100	75	−14	−33	33	58	90	Z ≶	105		1
8	✓	✓		105	101	90	62	71	73	76	116	123	115	99	88	104	⌈N 88⌋	92	87	101	102	95	97	101	101	89	86	94	1
9	✓	✓	✓	91	104	⌈116	90	77	62	101	81⌋	62	61	77	76	67	83	81	63	86	81	72	76	66	72	81	109	81	0
10	✓	✓	✓	81	63	66	67	⌈62	56	48	53⌋	52	51	62	72	72	86	87	76	76	73	81	74	85	86	⌈86	106⌋	72	0
11				⌈109	111	105	63	72	82	51	47	58⌋	43	51	59	71	71	72	73	77	82	84	86	—	—	—	⌈67⌋		0
12	✓	✓	✓	⌈71	100	82	70	85	66	68	59	61⌋	55	(63)	72	76	75	75	81	(80	67)	57	53	58	62	72	72	70	0
13	✓	✓	✓	77	81	70	72	76	71	59	63	53	52	52	53	62	63	67	70	67	53	57	48	48	53	53	48	61	0
14	✓	✓	✓	46	47	47	43	49	43	39	43	47	54	53	57	66	66	77	91	81	52	45	53	45	39	45	47	53	0
15	✓	✓	✓	46	47	48	51	48	43	43	39	49	57	62	65	68	69	74	77	80	63	48	42	43	43	43	43	54	0
16				45	43	43	47	48	47	47	59	61	57	62≷	48	47	46	N 67	N 62	57	N 9	67	N 26	Z	Z	N 50	N 40≷		1
17	✓	✓		56	57	61	⌈67	72⌋	⌈29	62	82⌋	⌈191	100⌋	93	94	87	92	93	81	77	76	67	54	55	67	72	92	78	0
18	✓	✓		⌈119	79	49	62	48	42	39	43⌋	68	48	46	62	57	57	66	61	59	40	41	40	39	47	46	51	55	0
19	✓	✓	✓	48	55	56	59	54	43	34	38	38	37	38	43	56	53	59	57	53	48	53	60	47	47	39	40	48	0
20				46	⌈87	62	72	68⌋	43	38	49≷	40	39	42	48	54≷	65	66≷	81	Z	81≷	58	53	68	54	58	62		1
21	✓	✓		72	⌈51	77	86	152	81	62	67	70⌋	82	76	82	89	93	92	101	81	63	63	66	67	72	87	80	80	0
22	✓	✓		72	72	80	⌈105	156	91	72⌋	66	53	48	62	63	80	94	86	86	87	63	61	65	72	77	76	76	78	0
23	✓	✓		76	72	76	78	77	67	57	43	53	57	58	59	76	80	81	82	81	62	71	67	54	57	⌈63	N 53≷	67	1
24	✓	✓		N 50	205	208	173	176	98	130	120	130	136	109	66⌋	63	76	81	81	77	76	60	68	68	72	⌈143	125≷	108	1
25				⌈132	135	164	161⌋	≷67	N 53	Z	48	Z	Z	−76	Z	119≷	100	91	92	95	96	96	77	83	59	62	72		1
26	✓	✓	✓	87	90	⌈103	125⌋	81	80	67	64	67	66	82	83	76	86	86	77	91	72	77	70	67	79	85	82	81	0
27	✓	✓	✓	78	76	81	79	81	74	60	46	61	62	75	80	84	91	91	86	91	81	67	80	85	86	81	90	78	0
28	✓	✓	✓	82	86	81	76	77	80	72	71	66	67	78	90	95	86	90	90	82	76	76	76	86	81	86	93	81	0
29	✓	✓	✓	90	86	85	86	91	87	73	71	66	57	54	60	77	81	86	82	72	⌈58	67⌋	77	82	71	70	71	75	0
30				64	59	47	48	53	37	25	25	37	33	N 28	38	N 14≷	48	57	65	≷268	103	Z	Z	Z	139	Z	Z ≶		1
31				≷Z	Z	N 72	N 57	N 44	Z	N 53	56	72	120≷	106	96	92	101	≷120	110	N 38	N 67≷	96	91≷	83	115	N 81≷	92		1
MEANS * 24 DAYS				79	83	82	80	80	65	62	61	67	62	64	66	71	74	76	76	73	62	63	64	65	68	74	76	71	
MEANS † 22 DAYS				72	78	77	76	79	62	60	61	68	62	65	67	72	76	78	77	75	64	63	63	63	66	71	73	70	
MEANS ‡ 15 DAYS				70	72	70	69	65	59	55	53	53	52	59	64	69	73	75	75	73	61	62	62	63	64	66	70	65	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 502

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

MAY 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.1	16.6	46	26.9	10.5		6.2	..	0	..	0	NW	2	SSW	3	ACu; ASt	7- 9	Ci; ACu; ASt; Cu	4- 6	Lightning in N in E
2	742.0	14.4	67	25.0	5.3		9.8	..	0	..	0	ESE	2	SSW	2		0	Ci; Cu	1- 3	
3	744.4	15.2	72	25.3	8.0		9.7	E	1	ESE	2	SE	3	SSE	4		0	Cu	1- 3	Dew early; smoke in W
4	745.5	18.0	50	27.7	7.7		9.7	S	2	S	1	..	0	SSE	1	ACu	1- 3	Ci	1- 3	Much smoke in W
5	746.0	18.0	43	27.9	7.3		9.8	S	2	..	0	NNE	4	..	0		0		0	
6	745.6	17.6	43	26.2	5.5		9.8	SE	1	N	1	NE	9	..	0		0		0	
7	737.8	18.8	29	22.6	13.2		1.0	NE	3	NNE	6	NNE	5	NNW	19	ACu; ASt; Nb	9-10	ACu; ASt; Nb	8- 6	Few light rains
8	737.5	18.9	71	21.1	14.5	0.25	4.4	WSW	6	SW	5	SSW	10	SSW	3	St; Nb	6- 8	St; Nb	6- 8	
9	741.3	13.9	92	19.0	8.9	0.02	3.6	SW	1	NNW	2	WSW	6	WSW	1	ASt; Cu; StCu	7-10	Cu; Nb	7-10	Mist in early hours; clearing in evening
10	742.2	16.7	86	22.8	10.0		7.1	..	0	N	1	NW	1	S	1	ASt; Cu; StCu	2- 6	Cu	4- 6	Mist early; clear at night
11	742.5	15.6	84	23.5	7.2	0.01	9.4	..	0	..	0	W	2	SW	2	Cu; StCu	3- 6	Cu	4- 6	Mist early; lightning in E in evening
12	745.6	15.6	91	22.2	8.5	0.01	8.9	..	0	..	0	ESE	4	SE	4	Cu	1- 3	Cu	1- 3	Mist early; clear at night
13	747.4	15.6	77	25.8	9.2		9.5	S	2	SE	2	E	3	SSE	4	ACu	1- 3		0	Dew early
14	745.7	21.1	49	29.7	12.8		8.8	..	0	NE	2	N	7	..	0	ACu; Cu	3- 6	ACu; Cu	3- 6	
15	744.8	19.6	49	28.5	10.0		8.5	..	0	NNE	2	NNE	9	..	0	CiSt; ASt	1- 8	CiSt; ASt	6- 8	
16	743.3	18.3	37	26.7	9.7		1.2	N	2	NNE	7	N	14	..	0	Ci; ACu; StCu	7-10	ASt; StCu; CuNb; Nb	7-10	Lightning and rain in pm
17	745.2	18.3	91	23.7	14.1	0.06	6.9	..	0	NNW	2	WNW	6	SSE	2	ASt; Cu	6- 3	Cu	4- 6	Fog early
18	746.2	15.4	93	25.5	9.0		8.8	..	0	..	0	N	1	S	2	Cu	8- 3	Cu	3- 8	Heavy fog early
19	744.0	17.7	70	27.2	10.2		7.7	S	1	NNW	1	N	5	..	0	Ci; ASt; ACu; Cu	6-10	Ci; ASt; ACu	4- 6	Heavy fog early
20	743.9	15.5	94	24.6	12.0		1.8	NNW	1	..	0	WNW	8	NNW	1	ACu; ASt; CuNb; Nb	10	ACu; ASt; CuNb; Nb	10	Fog early; rain in early am and late pm
21	745.4	18.1	89	23.3	12.4	0.04	8.6	SW	2	..	0	S	2	S	2	ACu; Cu; FrCu	10- 4	ASt; FrCu	3- 1	Fog early; cloudless at night
22	744.5	16.1	90	24.2	8.6		9.7	SSW	2	SSE	1	SE	1	SSE	3	CiSt; ACu; ASt	3- 5	CiSt; ASt; Cu	1- 3	Fog early
23	742.6	16.3	61	28.2	9.9		9.3	..	0	N	1	NNW	11	..	0	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Dew early
24	742.9	16.7	98	24.7	10.7		4.3	..	0	NNW	3	W	8	SSE	1	CiSt; Cu; FrCu	7-10	CiSt; Cu; FrCu	6- 8	Fog until late am; fog in evening
25	744.5	17.4	95	21.0	11.2	0.14	3.9	..	0	..	0	SW	9	SW	2	ASt; Cu; Nb	10- 6	ASt; Cu; Nb	4- 6	Thundershowers in am; dew in evening
26	748.4	13.4	83	18.9	7.7	0.17	8.8	SSE	1	SW	2	ESE	1	SSE	1	ASt; FrCu	1- 6	ASt; FrCu	4- 6	
27	744.9	11.8	74	20.6	4.7		7.8	..	0	..	0	SW	8	S	4	ACu; ASt	1- 3	ACu; Cu; StCu	4- 6	Dew early
28	745.7	9.8	81	15.0	4.6		9.4	SSW	2	SSE	4	ESE	7	SSE	4	ACu	1- 3	ACu	1- 3	Dew early
29	743.1	8.9	78	20.1	2.4		9.3	N	2	S	1	NE	4	SSE	1	Ci; CiSt; ASt; StCu	1- 3	Ci; CiSt; ASt	1- 3	Dew early
30	739.1	12.8	70	22.0	7.5		1.9	..	0	..	0	N	7	N	5	ACu; ASt; St; Nb	7-10	St; Nb	7-10	Thunderstorms in evening
31	738.4	15.2	93	19.3	12.1	0.24	4.8	NNE	1	N	2	NW	14	NW	4	ASt; Cu; Nb	7-10	Cu; Nb	7-10	Rain in am and evening
SUM						0.94														
MEAN	743.6	16.1	72	23.8	9.2		7.1		1.0		1.5		5.6		2.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 503

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	238	242	285	315	340	333	358	360	[333]	360	346	302	268	226	216	222	225	[202	122	186]	240	232	220	195	265	0
2				183	212	225	222	236	254	284	300	300	298	298	316	326	330	326	309	304	268	214	[200	164	150	124	111]		0
3				[102	88	90	104	122	154	165]	214	300	345	357	330	310	272	261	255	242	225	220	210	218	210	214	222		0
4	✓	✓	✓	238	268	286	300	328	330	330	346	360	358	345	300	274	256	225	220	208	202	200	210	208	208	226	228	269	0
5	✓	✓	✓	225	234	272	272	300	322	327	346	360	326	285	268	212	195	190	180	176	180	174	178	195	210	225	243	246	0
6	✓	✓	✓	255	272	290	284	272	282	298	318	339	320	286	244	210	198	182	180	194	194	195	208	237	273	274	288	254	0
7	✓			286	242	236	219	236	240	238	237	≷225≶	226	238	228	226	≷222	224≶	220	198	≷160	150	152	152	152	180≶	225	213	1
8	✓	✓		225	225	225	225	236	228	220	174	150	150	164	152	152	(153)	150	150	150	152	160	166	182	182	196	198	182	1
9	✓	✓	✓	194	186	[196	210	225	267	183	243]	264	238	210	194	190	190	194	192	190	195	212	208	207	208	195	201	208	0
10	✓	✓	✓	213	242	250	252	[236	210	256	284]	334	306	255	225	212	208	198	196	201	196	195	208	194	192	[178	120]	223	0
11	✓			[106	124	150	268	212	195	272	300	268]	315	268	240	219	220	212	201	194	189	178	182	200	208	207	[224]	215	0
12	✓	✓	✓	[195	135	183	196	206	178	186	270	226]	255	210	166	164	150	152	172	195	212	218	236	225	218	195	195	197	0
13	✓	✓	✓	196	206	222	236	250	255	256	282	320	356	358	330	280	256	249	225	224	226	224	255	260	270	284	312	264	0
14	✓	✓	✓	324	328	330	346	315	314	314	314	297	256	255	256	242	244	226	210	208	210	236	222	228	255	272	290	270	0
15	✓	✓	✓	314	314	315	312	328	345	345	346	332	300	272	232	212	(210)	182	177	166	180	194	208	226	240	256	284	262	0
16	✓			316	326	316	302	284	284	285	270	243	255	228	228	220	212	194	194	208	≷208	224	270	210	176	195	210≶	244	1
17	✓	✓		210	214	212	[180	192	225	171	146	90	160]	154	152	150	147	148	148	148	166	174	194	212	210	[182	144]	172	0
18	✓	✓		[124	196	270	244	280	286	300	300	240	272]	297	225	226	220	202	194	195	196	207	216	220	212	255	256	235	0
19	✓	✓	✓	242	236	226	225	[194	236]	300	345	345	369	362	304	242	225	224	224	214	212	196	195	256	252	270	284	257	0
20	✓			256	[166	194	182	212]	270	284	≷237	290≶	315	280	240	224	182	177	166	≷147≶	165	182	206	194	196	218	240	218	1
21	✓	✓		250	[279	242	220	118	224	220	188	220]	240	222	195	183	178	180	183	180	190	195	212	222	225	219	212	208	0
22	✓	✓		225	242	250	[196	152	225	256]	315	382	399	342	292	222	(195)	176	174	166	174	196	213	212	210	220	224	236	0
23	✓	✓		240	266	273	290	300	316	346	375	362	344	339	270	214	189	194	195	206	210	225	246	280	286	315	320	275	1
24	✓	✓		[315	146	164	177	154	180	165	153	138	146	180	212]	222	195	180	177	176	180	194	196	182	[132	90	99]	173	1
25	✓			[100	106	116	174]	≷274	256	170	303	300	75	164	180≶	164	165	165	165	165	166	172	184	196	220	210	213	183	1
26	✓	✓	✓	198	183	[165	164]	228	237	266	272	284	272	212	198	195	194	192	183	165	164	165	183	210	202	194	190	205	0
27	✓	✓	✓	184	210	218	226	242	262	285	342	345	306	282	238	212	189	178	160	171	180	182	180	178	182	190	188	222	0
28	✓	✓	✓	195	207	220	230	228	230	240	250	270	256	225	192	178	165	160	162	165	168	166	178	177	183	189	190	201	0
29	✓	✓	✓	186	195	206	220	231	249	267	284	330	376	378	345	268	(237)	180	194	208	[196	212]	210	222	236	254	256	248	0
30				270	300	357	346	358	392	405	408	406	418	400	398	375	374	328	270	254	228	225	≷——	212≶	225	——	——		1
31				≷——	250	196	206	226	210	236≶	250	213	189	178	166	153	164	160	165	≷153≶	164	166	165	178	182	176	180		1
MEANS * 27 DAYS				224	222	234	239	243	258	264	281	283	280	265	237	214	201	191	188	187	188	191	204	212	214	219	223	228	
MEANS † 22 DAYS				227	228	241	242	243	261	268	284	287	289	272	241	215	201	190	187	188	190	193	205	217	219	223	224	231	
MEANS ‡ 15 DAYS				226	231	244	253	262	270	281	307	316	310	285	253	224	210	197	193	194	194	193	204	218	224	228	231	240	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 504

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

MAY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	206	228	262	296	316	319	337	339	[254]	340	331	294	263	239	(216)	201	204	[188	111	166]	221	218	207	188	248	0
2				165	199	(347)	—	—	—	—	—	254	282	273	297	317	323	319	295	294	258	203	176	135	115	111	96		0
3				—	—	—	—	—	—	—	—	295	330	344	322	299	283	271	256	242	216	192	189	201	201	210	215		0
4	✓	✓	✓	226	243	273	274	297	318	320	323	339	338	330	294	276	250	210	190	193	193	175	190	185	188	207	215	252	0
5	✓	✓	✓	225	218	258	250	287	286	318	319	317	319	295	274	224	201	180	175	152	161	150	164	164	190	209	216	231	0
6	✓	✓	✓	249	260	271	269	273	285	292	285	318	317	291	246	214	202	(180	174)	180	189	188	203	228	263	262	283	247	0
7	✓			273	227	215	212	210	215	216	221	249	246	249	248	238	250	251	215	202	165	146	152	165	165	188	221	214	1
8	✓	✓		216	214	215	212	206	203	185	137	126	134	(135	135	135	135)	137	135	126	108	105	112	127	138	170	150	154	1
9	✓	✓	✓	151	135	[114	165	155	222	152	233]	251	225	178	179	180	178	176	175	162	141	146	161	174	171	151	128	171	0
10	✓	✓	✓	175	184	189	213	[224	214	273	263]	316	307	252	214	210	188	178	176	176	162	156	161	151	133	[124	84]	197	0
11	✓			[96	101	109	233	180	152	234	283	248]	309	274	250	237	226	214	193	179	164	152	155	160	164	164	[176]	194	0
12	✓	✓	✓	[164	111	148	164	153	151	151	227	203]	249	219	178	175	164	164	176	190	189	188	201	202	190	171	162	179	0
13	✓	✓	✓	165	175	213	215	218	227	250	254	327	359	361	332	284	262	249	237	213	213	204	238	249	254	261	284	252	0
14	✓	✓	✓	295	306	306	319	291	298	296	295	284	263	262	262	250	250	238	202	189	203	203	202	208	242	264	276	258	0
15	✓	✓	✓	296	295	294	281	315	317	319	341	328	295	287	250	227	226	(201)	176	164	178	180	198	203	213	261	287	256	0
16	✓			319	330	327	308	285	286	284	258	262	262	242	238	228	225	202	203	213	226	206	264	199	202	226	215	250	1
17	✓	✓		188	190	193	[151	166	230	165	123	84	151]	155	153	162	160	158	151	138	141	142	[162	176	175	151	112	157	0
18	✓	✓		[99	189	237	213	273	263	283	300	225	273]	294	218	227	214	190	185	179	178	187	202	214	201	244	242	222	0
19	✓	✓	✓	237	225	208	199	[176	227]	324	329	339	366	358	305	250	234	227	237	231	213	201	201	226	226	238	239	251	0
20	✓			[213	173	178	176	208]	262	275	202	250	296	276	244	226	199	188	175	164	124	138	162	158	176	189	204	202	1
21	✓	✓		230	[236	203	164	70	166	162	141	190]	226	213	190	178	167	164	162	153	151	167	178	189	189	178	165	176	0
22	✓	✓		201	214	203	[138	139	214	262]	308	350	368	317	292	225	188	(164)	161	151	152	164	175	180	176	189	192	213	0
23	✓	✓		204	226	249	270	273	294	320	338	337	338	336	292	225	201	202	202	202	210	212	225	260	262	274	295	260	1
24	✓	✓		[274	116	155	176	155	184	158	152	138	142	175	212]	218	201	187	175	162	164	176	175	143	[94	59	60]	160	1
25	✓			[70	69	70	152	237	232	210	284	187	128	258	175	151	151	152	148	135	111	112	138	152	175	162	152	159	1
26	✓	✓	✓	152	133	[111	115]	183	189	194	206	264	251	210	192	192	180	178	165	144	138	142	160	176	175	166	170	174	0
27	✓	✓	✓	179	183	185	201	214	227	283	292	294	285	265	226	202	180	175	165	152	143	151	162	141	138	139	144	197	0
28	✓	✓	✓	162	167	185	189	203	204	212	218	260	265	230	197	176	165	162	160	162	139	138	143	150	160	160	158	182	0
29	✓	✓	✓	175	184	192	202	202	218	249	262	306	355	352	326	269	222	(176)	189	193	[175	176]	179	176	206	213	232	226	0
30				249	264	303	338	338	379	399	398	386	388	392	390	392	367	324	266	183	202	180	—	201	176	—	—		1
31				—	214	124	165	213	164	225	234	192	173	175	176	175	178	176	169	167	162	151	151	155	150	161	151		1
MEANS * 27 DAYS				201	197	206	213	219	237	249	257	261	274	265	238	216	202	190	182	174	167	164	179	184	188	194	194	210	
MEANS † 22 DAYS				203	201	212	213	218	239	250	258	266	280	266	239	216	200	187	180	173	170	166	180	188	191	195	195	212	
MEANS ‡ 15 DAYS				204	203	214	223	234	247	265	279	293	302	281	251	226	209	194	187	180	175	167	182	190	198	202	204	221	

DESIGNATIONS AND REMARKS:

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( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 505

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				N 77	N 53 }	96	[130	152]	79	[64]	59	} 66	N 86	98	103	N 72	57 }	101	95	95	91	} 93	Z	110	216	Z	106 }		1
2				} Z	Z	Z	83	82	80	95	Z	96	100	Z	Z	Z	Z	Z	Z	N 78	Z	Z	91	91	86 }	82	77		1
3				73	95	87	81	95	85	86	72	87	} N 54	85	Z	Z	95	N 85	Z }	102	101	101	95	96	77	72	77		1
4	✓	✓		77	82	75	[87	162	164	69	76	86	76]	59	57	62	69	77	82	77	60	56	65	58	54	74	72	78	0
5	✓	✓	✓	64	63	53	53	47	47	42	53	66	61	71	77	76	72	72	68	58	43	47	54	52	51	51	49	58	0
6	✓	✓	✓	52	56	53	57	57	49	49	48	57	58	63	69	80	83	82	79	76	58	53	68	60	63	63	58	62	0
7	✓	✓	✓	61	63	63	57	49	44	38	38	44	44	43	59	71	72	72	76	74	61	47	40	57	58	50	51	56	0
8				52	48	47	48	47	44	44	46	57	63	68	67	63	76	72	77	67	} -14	Z	Z	Z	Z	Z	Z }		2
9				} Z	Z	Z	Z	Z	Z	Z	101	120	146	Z	Z	Z	Z	Z	Z	Z	93	77	N 76	Z	100	Z	67 }		2
10	✓	✓		75	} N 63	88	83 }	104	114	} 88	79	73 }	98	100	100	100	} N 88 }	117	121	130	115	115	115	121	120	107	97	100	1
11	✓	✓	✓	73	71	82	72	63	53	47	49	49	52	66	72	73	64	90	106	101	105	97	95	105	121	112	110	80	0
12	✓			106	111	105	100	103	95	101	92	} 97	73	111	106	N115	106	N111	121	119	N110 }	108	109	110	114	114	125	107	1
13	✓	✓	✓	135	134	130	120	114	111	106	77	89	91	101	106	115	112	104	101	82	79	72	66	58	55	62	58	95	0
14	✓	✓	✓	56	56	58	52	48	40	38	34	38	52	56	56	73	73	81	85	87	68	61	58	58	56	48	46	57	0
15	✓	✓	✓	50	48	57	52	43	38	43	43	58	63	66	81	89	87	106	110	100	61	63	67	77	89	79	79	69	0
16	✓	✓	✓	82	85	77	57	53	53	54	56	51	62	77	78	90	91	89	88	85	67	69	67	61	50	47	42	68	0
17				38	42	44	50	44	41	47	47	53	62	67	72	76	75	76	91	91	61	61	58	53	43	51			1
18				} Z	N 16	N 39	40	53	50	46	-12	67	Z	N 38	39	Z	Z	Z	Z	83	Z	Z }	94	88	76	87	95		2
19	✓	✓		} N 73 }	93	88	99	111	109	} 82 }	86	87	87	} N 71 }	87	83	82	87	88	101	89	87	81	77	86	87	88	88	1
20	✓	✓	✓	86	77	82	81	83	85	77	81	82	82	86	101	110	106	110	104	82	67	62	61	55	62	81	73	82	0
21	✓	✓	✓	79	79	86	80	72	80	72	67	71	76	94	83	78	77	80	82	77	77	75	62	56	67	76	77	76	0
22	✓	✓	✓	92	97	90	96	95	89	94	100	85	83	83	91	83	85	90	92	91	78	77	68	69	82	86	78	86	0
23	✓	✓	✓	72	72	73	76	67	65	63	69	72	72	63	58	66	69	69	70	70	68	67	70	66	58	66	77	68	0
24	✓	✓	✓	68	67	66	58	48	44	37	41	46	58	62	67	62	59	67	61	61	53	53	55	59	60	64	59	57	0
25	✓	✓	✓	57	53	57	63	58	53	51	52	49	53	58	67	71	71	69	72	79	65	66	68	71	72	69	66	63	0
26	✓	✓	✓	50	51	51	52	54	53	52	47	40	53	67	80	82	86	81	80	76	71	67	66	67	73	69	69	64	0
27	✓	✓	✓	63	64	66	72	81	67	78	59	73	71	71	73	68	70	73	77	72	67	61	54	63	61	65	55	68	0
28	✓	✓	✓	52	57	70	58	58	58	54	56	68	74	76	76	74	73	82	78	81	66	57	58	60	60	59	62	65	0
29	✓	✓		51	58	62	67	} N 38 }	73	63	54	63	72	91	98	98	101	95	82	} N 58	95	101	119	82 }	125	125	[110]	83	1
30				[68	83	95	106]	147	} N 104	Z	Z }	134	115	111	101	} Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	133	149	Z }		2
31																													
MEANS * 22 DAYS				72	73	74	72	73	72	64	62	66	69	74	79	83	82	87	87	84	74	71	71	70	74	75	73	74	
MEANS † 21 DAYS				70	71	73	71	72	71	62	60	64	68	73	78	81	80	85	86	82	72	69	69	68	73	73	70	73	
MEANS ‡ 17 DAYS				70	70	71	68	64	61	59	57	61	65	71	76	80	80	83	84	80	68	64	63	64	67	67	65	69	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } }=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 506

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JUNE 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h DIR.	02h–03h VEL.	08h–09h DIR.	08h–09h VEL.	14h–15h DIR.	14h–15h VEL.	20h–21h DIR.	20h–21h VEL.	FORENOON TYPE	FORENOON AM'T	AFTERNOON TYPE	AFTERNOON AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	738.7	15.6	94	18.4	9.6	0.11	4.9	NNW	1	N	1	WSW	10	W	3	ACu; Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Intermittent showers
2	737.6	13.9	83	17.3	9.2	0.80	3.8	NNW	1	WNW	2	NW	3	..	0	ASt; CuNb; Nb	4-10	ASt; CuNb; Nb	7-10	Rain
3	739.9	14.5	86	17.8	9.2	0.34	4.0	WNW	2	WNW	2	WSW	9	SW	2	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	6- 3	Rain; clear in evening
4	743.7	11.3	97	19.6	6.9	0.09	8.9	SSW	2	..	0	..	0	SSE	1	ASt; Cu; FrCu	3-10	Ci; ASt; Cu; FrCu	6- 3	Fog early; dew in evening
5	744.7	12.7	83	19.4	5.2		9.0	..	0	..	0	ENE	3	SE	1	Ci; CiSt; ASt; StCu	1- 3	Ci; CiSt; ASt; FrCu	1- 3	Dew early
6	745.2	12.2	74	21.0	4.8		9.1	..	0	N	1	N	3	..	0	Ci; StCu	1- 3	ASt	1- 3	Dew early
7	744.0	12.2	67	22.5	5.8		6.1	NNW	1	N	2	NNW	5	..	0	ACu; ASt; StCu	3- 8	CiSt; ASt; Cu	8- 3	Dew early
8	739.0	15.0	51	23.2	7.1		2.3	NNW	2	N	1	NNW	13	W	1	ACu; ASt	4- 6	ASt; StCu; Nb	7-10	Rain in evening and at night
9	732.9	14.5	89	18.3	13.8	1.14	5.1	NW	9	NW	3	W	15	WNW	2	CuNb; Nb	5-10	CuNb; Nb	7-10	Rain from early hours and during day
10	740.0	12.6	96	17.7	9.0	0.12	6.5	WNW	2	NNW	1	SW	5	WSW	2	StCu; CuNb; Nb	7-10	StCu; CuNb; Nb	7-10	Rain in am
11	744.2	11.4	84	18.2	4.5	0.01	5.9	..	0	N	1	WNW	4	WNW	2	ASt; ACu; StCu; CuNb	4- 8	ASt; ACu; StCu; CuNb	6- 8	
12	741.8	12.8	93	18.1	7.0	0.02	6.1	NW	2	NW	4	SW	10	SSW	3	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Rain in am
13	747.0	8.4	75	13.4	2.4	0.04	6.9	S	2	..	0	ESE	9	ESE	3	Cu	1- 3	ACu; Cu	4- 8	
14	748.1	9.7	73	14.2	1.5		8.8	SSE	1	ESE	3	E	8	ESE	3	ACu; ASt; Cu	1- 3	Cu	0- 1	Dew early
15	749.2	8.9	72	15.8	1.7		9.2	E	2	SE	1	ENE	4	SE	2		0		0	Dew early
16	748.7	9.4	76	16.8	0.7		9.2	..	0	..	0	ENE	5	E	3		0		0	Dew early
17	743.9	9.3	76	20.9	2.2		9.0	..	0	NNE	1	N	7	NNW	1		0	ASt	1- 8	Frost early
18	737.2	13.7	96	16.4	8.9	0.14	0.0	NNE	3	N	5	NW	7	W	6	Cu; St; Nb	6-10	Cu; St; Nb	7- 8	Rain in early hours and during day
19	742.9	12.1	82	15.6	6.8	0.21	7.5	WSW	4	WSW	3	S	10	WSW	1	StCu; Nb	1- 8	StCu; Nb	6- 8	Rain
20	747.8	10.1	80	14.9	5.5	0.02	9.0	S	1	SSE	2	SSE	9	SSE	2	ASt; St	1- 3	St	4- 8	Dew early; clearing in evening
21	749.8	9.2	87	13.1	2.0		5.2	SSW	2	S	1	SE	8	SE	2	FrCu	1- 3	Cu; FrCu; StCu	4-10	Frost early
22	750.3	9.4	87	14.1	6.7		5.1	SSE	2	SE	4	SE	8	SSE	2	Cu; StCu	6-10	Cu; StCu	10- 3	Dew in evening
23	750.5	10.2	62	13.3	4.5		3.3	SSE	4	ESE	6	ESE	9	ESE	4	ASt; StCu	10- 7	ASt; StCu	6- 1	Dew early
24	749.8	8.9	77	15.0	2.1		5.4	SE	3	ESE	2	ENE	8	ESE	3	ASt; StCu	1- 3	ASt; StCu	1- 3	Dew early
25	750.5	10.2	66	15.1	2.3		7.9	SSE	2	SE	2	SE	10	SSE	4	CiSt; ASt; Cu	1- 3	CiSt; ASt; Cu	1- 3	Dew early; clear at night, with dew
26	751.8	10.4	69	15.4	1.8		9.1	SE	3	SE	3	E	10	ESE	5	ASt; Cu	1- 3	Cu	1- 3	Clear in evening
27	749.9	9.4	65	15.8	4.1		5.1	E	4	E	3	E	11	SE	3	Ci; ACu; ASt; StCu	7-10	ASt; Cu	7-10	Dew early
28	744.1	12.2	54	20.6	5.1		8.5	ENE	3	ENE	6	NNE	10	N	1	ACu; ASt; StCu	1- 3	ASt; Cu; StCu	1- 3	
29	739.0	12.4	83	20.5	5.8	T	6.6	N	2	NNE	6	N	12	N	4	ASt; Cu; StCu; CuNb	6- 8	Cu; StCu; Nb	7-10	Showers in early am and late pm
30	733.7	15.6	92	18.2	12.3	T	1.4	N	7	N	12	WSW	12	W	7	CuNb; Nb	10	CuNb; Nb	10	Rain in am and pm; lightning in evening
31																				
SUM						2.44														
MEAN	744.2	11.6	79	17.4	5.6		6.3		2.2		2.6		7.9		2.4					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.85 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓			176	172	179	115	110	191	219	278	265	234	200	193	176	175	165	162	156	154	176	191	194	191	196	201	186	1
2	✓			176	163	173	193	191	201	206	176	204	206	172	178	176	129	191	147	172	173	162	178	193	216	220	229	184	1
3	✓			201	190	191	193	196	220	216	209	209	185	193	175	190	185	181	175	187	181	179	188	193	201	209	210	194	1
4	✓	✓		222	222	222	187	122	132	219	209	184	219	269	260	237	234	234	222	216	209	207	188	193	206	220	200	210	0
5	✓	✓	✓	203	218	237	235	284	319	319	347	323	316	294	278	260	(253)	248	240	248	240	248	223	250	260	279	294	267	0
6	✓	✓	✓	307	306	315	322	325	366	366	368	369	354	291	266	245	235	232	222	234	235	235	223	244	254	268	281	286	0
7	✓	✓	✓	309	309	323	363	390	412	429	441	413	391	348	250	210	190	188	194	206	206	222	234	234	234	238	265	292	0
8	✓			298	338	348	354	369	379	366	363	353	310	266	250	235	216	207	210	219	204	222	223	187	103	76	88	258	2
9	✓			63	44	56	90	100	132	169	188	178	162	147	154	148	146	157	154	147	162	165	175	176	179	160	188	143	2
10	✓	✓		193	181	176	172	176	193	191	216	231	223	191	181	175	166	166	173	176	179	187	191	207	209	210	234	192	1
11	✓	✓	✓	251	266	265	295	325	407	415	407	381	338	282	265	240	219	203	193	193	191	193	204	209	218	219	219	267	0
12				210	216	207	201	207	219	201	198	201	203	193	175	172	(169)	173	178	185	175	173	175	176	176	157	132		1
13	✓	✓	✓	147	148	157	172	178	190	200	220	234	207	191	163	147	150	178	185	190	193	194	206	216	220	218	219	188	0
14	✓	✓	✓	222	225	248	265	297	323	343	375	379	294	244	229	209	188	193	188	191	198	206	220	231	294	325	340	259	0
15	✓	✓	✓	325	323	325	340	354	356	337	310	(294)	266	253	215	181	175	175	173	187	204	194	193	196	191	216	222	250	0
16	✓	✓	✓	234	247	266	322	350	340	322	325	356	309	240	220	193	201	204	218	216	222	220	235	268	279	307	313	267	0
17				337	345	348	353	368	372	338	363	351	297	248	235	220	215	198	185	172	176	179	184	193	220	247	—		1
18	✓			262	307	307	294	279	312	295	235	241	235	265	245	219	173	176	147	176	131	160	162	172	166	172	176	221	2
19	✓	✓		173	172	166	157	162	165	191	193	190	187	176	176	172	(169)	168	172	172	171	187	190	193	203	206	212	180	1
20	✓	✓	✓	223	232	225	222	220	219	216	218	220	209	172	148	147	132	126	148	176	200	204	206	206	209	190	203	195	0
21	✓	✓	✓	235	231	206	207	219	206	207	223	237	240	231	191	193	191	190	193	193	191	196	206	222	220	220	237	212	0
22	✓	✓	✓	194	191	206	206	216	215	206	196	216	223	207	181	176	181	187	187	190	193	197	198	204	181	175	185	196	0
23	✓	✓	✓	206	232	234	234	248	251	250	237	231	209	215	220	220	220	223	222	207	222	212	222	222	234	240	248	227	0
24	✓	✓	✓	262	265	290	294	310	350	368	382	407	341	281	238	220	220	244	262	254	263	250	257	260	256	251	265	283	0
25	✓	✓	✓	270	279	278	282	297	334	353	369	397	353	294	244	237	248	258	237	238	240	235	225	237	245	245	279	277	0
26	✓	✓	✓	294	310	319	337	353	376	378	397	451	368	293	235	256	(201)	219	237	266	253	253	260	262	265	278	304	299	0
27	✓	✓	✓	322	334	323	295	290	294	287	295	272	265	265	250	247	251	245	240	218	248	253	250	248	268	281	310	273	0
28	✓	✓	✓	332	325	304	309	319	316	309	304	282	256	235	235	231	229	222	206	191	190	166	163	209	247	278	298	256	0
29	✓	✓		309	334	323	325	338	338	365	381	337	294	238	219	201	200	200	204	206	209	207	203	204	206	206	188	260	1
30	✓			176	179	181	187	187	178	162	163	179	178	171	151	148	113	134	160	131	125	137	147	162	173	175	148	160	2
31																													
MEANS * 28 DAYS				235	241	244	249	257	276	282	287	287	263	237	215	203	193	196	195	198	200	202	206	214	219	224	234	232	
MEANS † 21 DAYS				249	255	258	264	275	291	299	305	305	279	248	222	209	203	204	206	208	212	213	214	225	233	241	253	245	
MEANS ‡ 17 DAYS				255	261	266	276	293	310	312	318	321	291	255	225	212	205	207	209	212	217	216	219	230	240	249	264	253	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ⌇ ⌇=DISTURBED BY BAD WEATHER

TABLE 508

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JUNE 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			}160}	168	137	[79	83]	169	[182]	229	233	215	174	176	173	169	152	147	131	120	121	135	138	108	}66{	155	151	1
2	✓			}155	164	171{	157	144	145	}148	95{	172	173	}157	72	39	134	148	147	155	149	158	133	95	150{	172	189	143	1
3	✓			168	}138{	152	159	163	184	172	166	171	164	174	}162	155{	160	158	}147{	131	129	133	134	138	159	172	159	156	1
4	✓	✓		168	159	181	[120	69	91	182	159	147	188]	247	233	210	204	197	184	173	177	[172	122]	155	163	178	198	170	0
5	✓	✓	✓	235	245	}234	267{	292	299	299	280	270	294	270	245	235	234	(210)	220	217	221	221	209	221	232	246	260	248	0
6	✓	✓	✓	291	284	281	280	305	352	357	349	322	327	286	260	237	225	221	208	199	196	171	184	196	229	225	263	260	0
7	✓	✓	✓	291	295	315	345	391	417	439	441	398	(383)	349	260	211	188	182	188	183	197	[186]	217	221	229	[220	241]	283	0
8	✓			293	329	335	335	359	360	360	350	336	314	280	267	257	221	220	215	210	}232	183	154	184	246	188	171{	267	2
9	✓			}225	237	291	326	155	103	134{	150	147	143	}147	118	163	154	134	94	108{	130	142	}152	95	117	131{	162	157	2
10	✓	✓		159	160	142	145	129	138	149	172	191	163	159	163	162	148	140	137	122	[98	96	98	99	111	133	150]	140	1
11	✓	✓	✓	[199	231	196	213	255]	350	365	349	349	315	267	249	240	221	189	173	158	134	125	137	145	154	157	160	222	0
12	—	—	—	—	—	—	—	—	—	—	—	183	182	162	147	148	150	(149)	137	139	}135{	133	130	120	111	120	105		1
13	✓	✓	✓	99	107	95	104	121	125	(130	147)	178	192	183	169	147	153	176	172	172	176	174	184	191	187	171	173	155	0
14	✓	✓	✓	187	171	210	233	269	284	329	369	360	292	251	234	220	194	198	184	174	183	184	204	225	277	300	310	243	0
15	✓	✓	✓	303	294	293	310	323	336	310	284	(257)	257	241	208	181	164	157	145	154	179	171	162	157	158	174	197	226	0
16	✓	✓	✓	199	207	232	277	327	307	302	302	313	292	241	220	197	189	192	197	197	197	188	204	237	249	288	291	244	0
17				291	317	307	314	329	333	327	348	323	294	257	234	221	213	205	172	158	159	157	159	196	210	225	}244{		1
18	✓			}291	301	282{	281	258	292	281	}265{	225	}255{	257	245	}247	232	221	216	159	174	162{	147	148	}147{	145	135	224	2
19	✓	✓		}145{	125	124	118	112	114	}109{	125	147	150	158	162	162	162	(150)	147	137	134	129	134	124	135	145	158	138	1
20	✓	✓	✓	162	171	168	182	171	171	169	167	176	184	174	171	147	121	125	137	159	158	159	172	163	174	154	172	163	0
21	✓	✓	✓	188	186	171	167	135	168	182	196	201	222	217	198	201	198	186	187	184	173	182	186	174	176	173	186	185	0
22	✓	✓	✓	158	149	163	168	186	184	171	164	197	221	214	197	188	193	193	184	179	181	162	159	155	145	137	147	175	0
23	✓	✓	✓	174	193	198	211	226	234	233	222	213	199	205	215	227	222	229	223	213	211	199	213	204	208	197	171	210	0
24	✓	✓	✓	211	221	243	256	284	340	342	341	391	345	302	266	245	237	247	257	245	247	241	243	235	234	234	246	269	0
25	✓	✓	✓	244	225	223	235	257	291	318	329	379	337	299	250	244	249	255	247	221	220	196	172	179	194	199	249	251	0
26	✓	✓	✓	246	269	277	303	294	315	345	383	430	361	303	245	232	222	(219)	240	263	232	232	233	232	245	253	279	277	0
27	✓	✓	✓	292	305	291	263	244	244	245	256	[211	253	266]	259	246	244	233	223	[201]	221	232	217	201	244	235	278	246	0
28	✓	✓	✓	291	287	266	279	277	279	279	269	253	247	233	231	233	231	215	194	171	182	[158	157]	196	211	270	276	237	0
29	✓	✓		295	303	303	312	}337{	314	329	356	328	291	241	221	209	205	199	197	207	193	174	172	173	172	171	162	244	1
30	✓			157	158	157	145	149	}163	171{	159	162	160	158	147	}145	160	197	172	193	158	118	122	96{	124	125	}121{	151	2
31																													
MEANS * 28 DAYS				214	217	219	224	226	242	251	253	256	248	230	209	198	194	191	185	179	179	170	170	171	185	188	202	208	
MEANS † 21 DAYS				216	218	219	228	238	255	266	270	272	263	243	222	208	200	196	193	187	186	179	180	185	197	203	217	218	
MEANS ‡ 17 DAYS				222	226	227	241	256	276	283	285	288	278	253	228	214	205	202	199	194	195	187	191	196	209	214	229	229	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 509

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	94	92	92	109	99	N 86	92	100	104	101	100	96	94	100		1
2	✓	✓	✓	86	89	76	85	72	102	86	62	67	70	72	74	76	81	87	96	96	72	76	67	65	67	80	72	78	0
3	✓	✓	✓	77	76	66	64	61	61	61	52	54	64	72	86	86	87	81	85	85	72	58	63	53	53	59	62	68	0
4				76	91	86	76	77	82	95	92	87	Z	N 65	76	Z	Z	125	90	90	88	81	76	72	81	88	89		1
5	✓	✓		86	67	85	92	81	85	80	91	78	76	75	71	N 66	87	N 65	N 72	N 62	81	76	76	80	70	55	50	75	1
6	✓	✓	✓	95	97	96	93	82	102	110	120	76	80	92	95	99	94	92	82	87	76	89	67	60	61	76	82	88	0
7				87	87	99	87	109	100	81	65	86	95	83	Z	105	N 91	102	105	104	109	Z+	Z+	Z+	Z−	100	118		1
8				156	120	N108	Z	141	132	120	96	104	113	110	Z	100	136	101	100	100	87	86	82	91	91	87	87		1
9	✓	✓	✓	86	88	90	81	82	100	97	84	71	86	86	93	85	85	89	97	94	92	81	81	78	81	81	87	86	0
10				97	90	95	105	86	63	61	57	65	67	80	86	95	N 72	90	96	96	75	—	—	—	66	79	100		1
11	✓	✓		100	91	72	120	85	67	71	59	70	84	65	77	76	82	84	91	90	76	62	81	67	63	65	67	78	0
12				63	66	65	62	63	56	51	50	70	66	77	88	107	96	—	—	105	76	83	82	79	80	81	98		0
13				96	N 52	N 78	117	82	120	N 81	115	N 76	Z	Z	104	129	Z	119	120	Z	Z	Z	Z	Z	114	100	110		1
14				109	100	110	Z	110	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	96	115	109	97	99		1
15	✓	✓	✓	100	109	101	114	115	114	115	129	125	105	97	100	100	96	105	100	114	106	109	120	120	124	127	128	111	0
16	✓	✓		138	154	172	167	167	124	103	92	97	94	105	99	106	119	132	139	125	97	91	101	99	106	101	101	118	0
17	✓	✓	✓	104	87	91	88	92	90	86	83	81	67	80	100	89	87	80	89	103	85	86	91	92	67	96	96	88	0
18	✓	✓	✓	90	70	67	66	72	70	62	57	61	57	62	59	68	74	77	81	87	72	67	63	62	67	75	76	69	0
19	✓	✓	✓	82	74	73	68	71	72	66	67	61	51	53	62	72	79	75	86	79	80	77	81	72	76	77	83	72	0
20	✓	✓	✓	87	105	115	113	109	99	96	87	82	87	91	82	88	81	86	87	87	80	67	77	81	81	77	87	89	0
21	✓	✓	✓	80	72	77	80	80	81	75	54	66	67	65	43	56	59	54	62	64	64	61	59	77	71	66	75	67	0
22	✓	✓	✓	76	76	81	76	70	62	61	96	52	47	63	81	77	78	78	77	72	57	48	53	59	59	64	66	68	0
23	✓	✓	✓	58	60	62	53	53	56	53	54	51	56	62	72	85	106	111	121	115	67	66	82	85	87	87	73	74	0
24	✓	✓	✓	66	65	64	58	56	56	53	54	62	58	65	78	91	91	87	90	92	86	87	83	75	81	82	77	73	0
25	✓	✓	✓	82	72	101	110	86	93	86	81	76	75	63	81	76	89	91	104	110	110	91	95	91	101	94	95	90	0
26	✓	✓	✓	88	87	87	94	96	87	75	74	67	85	94	87	76	92	91	94	96	86	73	82	104	87	81	85	86	0
27	✓	✓	✓	76	72	70	65	66	65	56	55	58	63	65	72	76	81	81	89	85	67	59	52	48	50	59	59	66	0
28				53	56	59	62	63	64	72	67	58	72	77	71	75	N 37	N 0	N 11	Z−	Z	Z	70	Z	Z	60	—		1
29				—	—	—	—	—	—	—	—	—	65	63	Z	N 61	Z	Z	101	Z	91	75	70	78	62	59	57		1
30				—	—	—	—	—	—	—	—	—	72	66	65	64	80	95	114	141	81	73	79	76	82	79	81		0
31	✓	✓	✓	81	69	62	68	62	54	44	48	46	51	57	63	65	72	76	68	85	62	71	57	56	74	80	53	64	0
MEANS * 20 DAYS				87	84	85	88	83	82	77	75	70	71	74	79	81	86	86	90	91	79	75	77	76	76	79	79	80	
MEANS † 20 DAYS				87	84	85	88	83	82	77	75	70	71	74	79	81	86	86	90	91	79	75	77	76	76	79	79	80	
MEANS ‡ 17 DAYS				83	80	81	81	78	80	75	74	68	69	73	78	80	84	85	89	91	78	74	75	75	76	80	80	79	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷≶=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 510

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

JULY 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	740.5	10.3	94	14.9	7.9	0.66	6.5	WSW	4	WSW	6	SSW	10	SW	2	CuNb; Nb	7- 8	CuNb; Nb	6- 1	Rain
2	745.9	8.2	87	13.5	1.7	0.02	9.0	..	0	..	0	ESE	2	ESE	1	ASt; FrCu	1- 3	ASt; FrCu	4- 6	Heavy dew early
3	740.6	6.7	91	16.6	1.5		7.7	..	0	NNE	1	NE	8	N	1	CiCu; Ci	7- 3	ASt	1- 3	Frost early
4	731.0	13.3	77	17.7	3.6		1.0	N	2	N	11	W	16	WNW	4	StCu; CuNb; Nb	7-10	ASt; StCu; CuNb	7-10	Rain; cleared somewhat in evening
5	738.6	11.9	96	17.4	7.4	0.30	4.1	NNW	2	NNW	14	WNW	10	NNW	3	StCu; CuNb; Nb	4-10	CuNb; Nb	7-10	Rain
6	740.7	12.9	93	19.7	10.8	0.30	4.9	N	2	N	1	NNW	9	N	2	Cu; StCu; CuNb	7-10	Cu; StCu	7-10	
7	736.5	16.9	85	19.6	11.3	T	5.3	N	2	N	8	W	19	NW	11	Cu; StCu	7-10	Cu; Nb	7-10	Rain in pm
8	739.4	13.3	82	17.7	9.8	0.25	7.0	W	11	..	0	WSW	11	WNW	2	Cu	2- 6	Cu; CuNb	4- 6	
9	744.4	12.8	93	18.4	7.5	0.02	5.0	WNW	2	NW	2	W	11	NW	2	ASt; StCu; CuNb	4-10	Cu; CuNb	4- 6	Light rain at intervals
10	746.9	12.5	96	19.0	8.8	0.02	4.8	NW	1	..	0	SW	2	..	0	Cu; StCu	10- 7	Cu; CuNb	7- 8	
11	745.4	12.5	91	18.8	6.5	0.02	3.0	..	0	..	0	NNE	4	..	0	Cu; StCu	3-10	StCu	1- 3	Clear in evening
12	739.3	9.7	86	19.9	2.5		6.8	NW	1	NE	1	NW	12	N	4	ASt	1- 3	Cu; StCu	4- 8	Dew early
13	736.5	12.8	96	16.7	9.5	0.22	2.8	NNW	6	WSW	4	W	11	WNW	3	CuNb; Nb	7-10	Cu; Nb	7-10	Rain
14	740.5	8.8	94	12.8	7.5	0.32	3.3	W	3	NNW	2	WNW	8	W	1	CuNb; Nb	10	Cu; Nb	7-10	Rain throughout
15	746.6	8.0	82	14.1	3.0	0.20	8.8	SW	2	SW	3	S	8	SW	1	ASt; StCu; Nb	3- 6	ASt; FrCu	3- 6	Dew early and at night
16	752.3	8.2	83	13.2	0.6	T	9.0	SSW	2	..	0	SE	6	SSE	3	ACu; ASt; FrCu	1- 3	Ci; FrCu	1- 3	Frost early
17	753.4	9.1	73	15.2	0.7	T	9.2	S	1	..	0	ESE	2	SSE	3		0	ASt	0- 1	Frost early
18	753.2	9.2	83	15.9	2.0	T	9.1	..	0	..	0	E	5	SE	3	ASt; StCu; FrCu	1- 3	FrCu	1- 3	Dew early
19	753.9	8.8	89	16.6	3.2		9.0	SSE	1	SE	1	ESE	7	SE	2	Ci; Cu; FrCu	1- 3	FrCu; StCu	4- 6	Dew early; clearing at night
20	752.3	7.9	72	12.3	5.2		7.5	ESE	8	ESE	11	E	14	SE	4	Cu; StCu	10- 6	StCu	6- 1	Dew early; dew in evening
21	748.4	6.9	92	12.7	2.0		0.1	SE	5	E	10	ESE	4	S	2	StCu; Nb	10- 7	StCu	6- 1	Dew early and in evening
22	746.9	7.6	91	15.3	1.8	T	9.2	SSE	2	SSE	1	ENE	5	SE	2	Cu	0- 1		0	Fog early
23	746.8	8.8	62	17.7	-0.2		9.1	..	0	..	0	N	1	SW	2		0		0	Dew early
24	746.0	9.7	62	16.4	-1.5		3.6	..	0	..	0	W	2	SW	1	CiSt; ASt; StCu	4- 6	Cu; StCu; Nb	7-10	
25	747.4	10.4	84	14.8	2.0		4.6	..	0	SSE	3	ESE	13	SE	5	FrCu; StCu	10- 7	FrCu; StCu	6- 4	
26	751.0	8.0	70	13.1	0.0		9.3	SSE	4	ESE	4	ESE	6	SE	4		0		0	Dew early
27	749.0	7.8	71	16.4	-0.5		9.2	SE	2	ESE	1	NE	7	NW	1		0		0	Dew early
28	739.6	9.4	47	18.2	-0.8		5.0	NW	2	NNW	4	WSW	15	W	5	ACu; Cu; Nb	1- 6	Cu; Nb	7-10	Rain in am and pm
29	741.9	8.9	98	15.0	4.0	0.29	3.6	WNW	2	NW	1	SSW	5	..	0	ASt; CuNb; Nb	6-10	StCu; CuNb	10- 7	Rain in am and pm
30	744.1	8.6	96	16.1	1.5	0.22	7.5	..	0	..	0	SSW	1	SW	3	Ci; ASt; Cu	7-10	Cu	6- 3	Fog early
31	747.6	8.5	88	16.8	0.2		5.4	..	0	N	1	WSW	4	WSW	1	ACu; ASt; StCu	6- 8	StCu; CuNb	7-10	Frost early and fog
SUM						2.84														
MEAN	744.7	10.0	84	16.2	3.9		6.1		2.2		2.9		7.7		2.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 511

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			}161	161	146	142}	173	174	}173	184	160	175}	170	174	171	168	168	171	174	175	174	174	187	200	203	202	173	1
2	✓	✓	✓	207	215	[248	234	246	152	219]	244	236	225	213	168	145	130	117	139	141	144	145	160	203	209	219	231	191	0
3	✓	✓	✓	232	234	248	268	286	310	326	361	376	351	278	243	216	(203)	202	199	204	213	220	218	234	249	261	248	258	0
4	✓			234	219	223	232	243	244	231	229	218	}202}	184	174	}160}	157	145	149	164	173	188	174	170	171	187	197	194	1
5	✓	✓		212	207	199	188	215	229	[188	193]	207	219	199	175	161	162	}161	165	146}	160	165	174	178	184	183	175	185	1
6	✓	✓	✓	178	168	175	199	202	196	218	231	232	218	199	186	173	168	171	167	161	173	171	190	203	203	186	190	190	0
7	✓			190	187	203	215	207	190	170	181	202	193	170	}109	132	130}	141	144	145	158	}146	141	132	122}	142	136	162	1
8	✓			144	145	145	}135}	146	145	158	178	190	174	164	160	160	160	161	160	161	173	173	174	184	188	199	199	166	1
9	✓	✓	✓	207	212	204	188	174	183	181	203	203	204	186	186	174	175	177	187	188	186	187	188	202	197	202	204	192	0
10	✓			204	246	219	200	231	283	289	283	276	246	199	191	190	(181)	200	188	184	178	193	[188	203]	204	193	175	214	1
11	✓	✓		[173	190	231	171	218	262	219	274	241	225]	287	274	232	229	219	218	218	[204	190]	196	219	240	246	249	226	0
12	✓			274	290	316	322	315	300	284	319	332	322	276	207	171	167	165	168	171	174	188	190	203	218	190	168	239	0
13	✓			188	}181	~~180~~}	178	175	160	}165}	175	174	}102}	157	158	164	}145}	165	168	}157	136}	175	164	}173}	175	174	173	165	1
14	✓			175	178	174	}155}	187	}175	174	170	180	178	145	170	175}	175	}162}	175	}174}	183	}171}	184	188	213	}203}	218	178	1
15	✓	✓	✓	218	213	218	209	197	193	196	175	177	188	188	184	175	175	174	171	173	174	175	178	191	197	191	188	188	0
16	✓	✓		175	158	145	148	170	177	190	203	229	222	197	174	145	141	145	157	158	160	162	174	161	180	190	203	174	0
17	✓	✓	✓	204	203	206	206	206	204	204	218	246	261	244	220	223	(222)	218	203	187	170	168	161	158	171	174	174	202	0
18	✓	✓	✓	183	215	226	243	222	237	257	274	(286)	293	271	255	243	237	236	232	232	232	218	220	226	228	225	228	238	0
19	✓	✓	✓	231	246	261	265	262	258	265	273	320	352	344	277	244	225	213	213	218	219	216	203	203	226	205	205	248	0
20	✓	✓	✓	218	207	191	193	202	203	206	218	202	200	202	191	188	199	202	203	213	207	203	188	194	206	209	204	202	0
21	✓	✓	✓	218	229	222	232	232	231	232	246	268	249	232	232	237	246	248	249	243	245	245	246	218	216	228	218	236	0
22	✓	✓	✓	218	219	238	251	286	306	319	[248]	425	429	345	257	241	234	232	236	237	245	241	226	232	237	246	246	266	0
23	✓	✓	✓	265	290	306	332	342	344	341	346	[389]	373	306	261	203	178	175	183	188	196	204	188	216	215	215	236	262	0
24	✓	✓	✓	248	248	243	261	284	306	319	357	329	319	290	231	191	(178)	187	188	187	190	200	215	234	241	226	234	246	0
25	✓	✓	✓	237	[215	170	173	203]	188	197	216	237	218	215	188	178	174	174	174	175	160	175	184	191	190	200	215	194	0
26	✓	✓	✓	229	231	238	246	258	276	290	304	336	276	237	215	183	161	157	149	160	173	173	167	160	170	187	193	215	0
27	✓	✓	✓	203	210	231	264	273	300	313	304	342	319	284	237	215	199	193	200	197	197	199	204	228	232	231	237	242	0
28	✓			261	284	290	299	302	303	304	294	293	260	190	173	171	}145	170	174	161	130	160}	199	}161	174}	184	206	220	1
29	✓			218	}188}	203	215	238	255	262	290	287	277	234	}175	203	187	171}	203	161	203	184	175	184	199	216	229	215	1
30	✓			[218	234	315	320	302	307	313	309	302	241	203]	197	194	193	190	188	188	191	202	202	203	216	219	219	236	0
31	✓	✓	✓	219	246	268	262	274	304	348	378	389	334	276	219	200	(188)	188	184	183	190	204	219	228	228	219	[246]	250	0
MEANS * 31 DAYS				211	215	222	224	235	239	244	254	267	253	229	202	189	182	182	184	182	184	188	189	196	203	205	208	212	
MEANS † 20 DAYS				214	218	223	227	238	243	251	263	284	274	250	219	198	191	189	191	190	192	193	195	204	211	212	216	220	
MEANS ‡ 17 DAYS				219	224	229	237	244	247	261	270	294	283	254	221	202	194	192	193	193	195	197	197	207	213	213	217	225	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

TABLE 512

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

JULY 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			105	100	108	127	83	115	89	92	112	140	151	151	151	141	140	140	138	105	103	100	107	129	138	130	121	1
2	✓	✓	✓	151	143	153	161	157	102	175	196	186	198	201	167	138	117	103	115	115	118	104	118	166	156	162	170	149	0
3	✓	✓	✓	173	187	203	219	245	276	288	329	320	307	263	226	202	189	(176)	171	176	173	186	188	211	224	228	232	225	0
4	✓			220	187	189	202	(204	205	207	209)	211	210	175	164	167	151	122	131	141	141	136	130	140	141	140	148	170	1
5	✓	✓		168	177	163	141	164	169	147	153	188	190	177	166	166	164	163	163	164	150	151	153	151	153	143	150	161	1
6	✓	✓	✓	142	129	130	153	156	133	167	173	186	188	180	176	177	174	167	156	149	153	144	146	164	169	161	155	160	0
7	✓			151	142	151	157	163	158	150	167	168	167	153	151	140	148	128	124	140	131	138	129	125	133	119	117	144	1
8	✓			110	128	129	115	103	103	100	81	119	134	135	133	142	138	140	135	129	125	117	129	129	140	153	154	126	1
9	✓	✓	✓	164	173	176	161	147	141	140	164	188	189	164	156	156	163	151	150	143	146	151	151	151	153	153	143	157	0
10	✓			138	151	155	141	154	198	201	240	222	207	177	173	158	163	(164)	162	141	120	120	125	120	151	151	117	160	1
11	✓	✓		109	136	156	81	119	170	164	196	153	147	253	246	214	204	(195	186)	176	154	129	146	162	189	211	199	171	0
12	✓			255	267	276	277	235	245	286	276	256	300	266	210	181	177	175	168	162	163	154	155	166	187	176	156	215	0
13	✓			160	175	174	154	137	129	146	136	141	195	151	136	133	130	148	142	114	92	102	92	117	128	117	114	136	1
14	✓			86	103	104	118	112	128	127	104	151	149	143	104	115	157	103	108	(94)	79	117	103	94	117	91	150	115	1
15	✓	✓	✓	115	138	147	143	129	119	128	125	140	154	163	156	154	153	153	147	136	115	109	115	104	108	117	119	133	0
16	✓	✓		109	84	81	78	67	100	127	151	164	188	175	166	138	123	125	125	115	108	103	92	102	105	110	124	119	0
17	✓	✓	✓	133	161	151	155	140	150	164	175	175	211	204	187	188	195	(186)	173	149	131	128	129	107	118	130	133	157	0
18	✓	✓	✓	150	175	163	175	195	189	213	234	207	262	249	242	226	219	220	213	203	199	164	175	187	176	174	167	199	0
19	✓	✓	✓	188	209	218	234	222	223	218	234	286	327	320	270	234	223	211	204	201	196	176	176	153	154	153	156	216	0
20	✓	✓	✓	188	186	164	164	161	164	179	188	184	187	194	194	186	189	188	189	189	188	157	144	149	164	161	151	175	0
21	✓	✓	✓	163	177	177	179	179	180	199	237	245	232	214	214	223	224	227	234	223	211	195	205	160	177	188	179	203	0
22	✓	✓	✓	174	179	180	199	243	256	276	199	385	384	317	246	229	219	212	219	210	210	201	190	189	188	196	207	230	0
23	✓	✓	✓	232	249	273	297	306	310	311	310	285	319	270	234	188	155	144	137	135	162	163	153	167	164	164	167	221	0
24	✓	✓	✓	191	198	196	211	247	246	281	290	256	276	263	224	194	(176)	175	164	138	141	143	163	187	147	180	183	203	0
25	✓	✓	✓	174	179	129	141	166	(156)	156	175	216	211	211	189	177	176	176	174	164	133	134	129	146	130	148	153	164	0
26	✓	✓	✓	170	171	179	156	164	207	223	236	310	258	224	210	181	154	142	138	143	144	142	129	117	129	150	150	176	0
27	✓	✓	✓	161	166	181	209	245	275	273	256	302	288	273	239	213	201	188	179	174	171	164	167	187	199	188	235	214	0
28	✓			259	266	290	302	307	309	278	275	289	256	188	166	168	155	176	174	198	180	142	141	115	127	130	141	210	1
29	✓			141	166	153	163	175	199	213	248	256	235	202	180	179	176	177	148	147	129	79	119	127	153	168	176	171	1
30	✓			173	177	234	249	257	255	268	256	251	182	170	176	181	166	156	142	115	140	141	140	141	154	153	144	184	0
31	✓	✓	✓	164	176	212	211	235	261	257	331	344	309	254	211	189	176	(166)	153	149	153	153	167	182	168	144	181	206	0
MEANS * 31 DAYS				162	170	174	177	181	189	198	208	222	226	209	189	177	171	164	160	154	147	140	142	147	153	155	158	174	
MEANS † 20 DAYS				161	170	172	173	184	191	204	218	236	241	228	206	189	180	173	170	163	158	150	152	158	159	163	168	182	
MEANS ‡ 17 DAYS				167	176	178	186	196	199	215	227	248	253	233	208	191	183	176	172	165	161	154	156	162	160	165	169	188	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 513

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	[48	53	53	51	62	63	53	52	69]	53	48	63	72	67	72	76	77	65	55	58	56	59	67	66	61	0
2	✓	✓	✓	57	61	57	44	56	44	44	48	58	57	61	71	67	72	72	81	90	78	[56	61	71]	82	67	73	64	0
3				64	62	64	64	57	54	56	55	57	62	63	66	86	92	104	106	—	—	—	—	—	76	67	72		0
4	✓	✓	✓	63	57	52	52	48	52	49	48	48	53	73	73	86	86	96	100	87	62	66	62	52	61	54	57	64	0
5	✓	✓	✓	44	47	48	42	43	47	47	42	39	43	38	52	51	54	66	63	76	80	65	62	72	67	67	62	55	0
6				62	81	95	95	105 }	Z	Z	N 56	Z	149	N106 }	—	—	—	—	—	104	100	99	87	91	76	78	76		1
7				89	N 81 }	72	70	[76	120	71	82	81	57]	82	{ 100	Z	Z	Z	Z	N 91	138	Z	Z }	91	87	96	98		2
8				101	110	—	—	—	—	—	96	104	87	87	97	96	95	89	91	94	86	70	66	67	72	77	87		0
9	✓	✓	✓	82	82	83	83	76	71	63	55	62	66	80	82	78	81	76	78	89	72	57	56	58	62	57	57	71	0
10	✓	✓		64	57	87	80	72	75	73	71	77	85	81	94	94	96	110	105	104	94	90	70	90	66	N 48 }	82	82	1
11				87	[110	142	195	191	134	141	151]	110	N 87	N 81 }	100	105	88	N 81 }	94	97	94	—	—	—	—	51	68		1
12				[66	69	143	109	136	89	71	54	63	73]	72	73	{ 68	N 37 }	79	87	86	76	73	82	76	58	67	{ Z }		1
13				91	{ Z	Z	Z	Z	Z	92	128 }	96	88	87	86	N 77 }	80	83	86	100	86	96	96	101	96	94	100		2
14				107	98	—	—	—	—	—	—	100	96	92	92	91	90	101	101	90	91	82	85	76	76	79	87		0
15	✓	✓	✓	87	76	70	71	63	76	76	67	76	77	91	106	115	107	104	119	121	104	97	91	76	66	61	57	86	0
16	✓	✓		62	62	52	57	54	[77]	52	50	92	92	96	94	81	77	76	{ 105	N 91 }	91	97	81	90	73	87	91	78	1
17	✓	✓	✓	106	124	123	118	114	100	87	81	86	95	94	95	110	106	123	115	118	106	72	85	87	89	85	117	102	0
18	✓	✓	✓	123	120	148	129	125	104	100	96	81	81	81	80	86	82	81	86	86	81	67	68	69	71	70	71	91	0
19				66	58	59	65	71	52	48	47	61	57	68	60	67	67	66	N 61 }	66	61	—	—	—	—	—	—		1
20				—	—	42	43	48	43	43	43	48	48	56	67	77	85	92	100	101	83	86	75	72	62	71	87		0
21	✓	✓		76	73	[253	241	229	289	196	96]	75	72	62	61	64	67	67	68	72	65	57	53	53	51	61	58	102	0
22				51	62	53	39	38	43	43	37	43	43	44	38	{ Z	37	43	Z	Z	N 43	N 0	Z+	Z	Z	N 24	62 }		1
23				101	84	87	101	91	N 62 }	86	91	100	87	{ 77	Z	91	93	Z }	91	94	96	92	94	95	110	109	103		1
24	✓	✓		107	105	98	91	108	104	86	110	101	87	86	82	71	N 76 }	76	86	82	89	85	85	63	82	81	86	89	1
25				95	96	94	88	76	80	69	86	{ 57	Z }	86	{ 66	70	77	N 67	79	Z }	82	82	87	86	87	115	100		1
26	✓	✓	✓	81	94	122	97	108	{ 110	73 }	105	94	{ 65	90	81	76	89	63	63 }	87	72	87	63	73	88	95	92	86	0
27				97	103	117	129	132	125	104	97	N 50 }	75	62	Z+	143	147 }	—	—	106	110	—	—	—	100	96	105		1
28	✓			106	111	119	124	120	104	100	81	81	76	82	85	92	113	114	113	113	100	76	101	85	97	96	104	100	0
29	✓	✓	✓	91	91	90	96	94	83	76	76	55	(53)	53	64	76	77	77	80	88	84	76	96	105	100	104	140	84	0
30	✓	✓	✓	162	142	162	157	130	118	105	81	71	76	73	72	75	73	81	78	79	75	58	62	72	63	67	66	92	0
31	✓			68	62	62	62	47	53	53	49	56	68	73	76	81	87	87	88	[106]	76	43	56	76	68	65	64	68	0
MEANS * 17 DAYS				84	83	99	94	91	92	78	71	72	71	74	78	81	83	85	88	92	82	71	71	73	73	72	79	81	
MEANS † 15 DAYS				84	83	100	94	92	94	79	72	72	70	74	78	80	81	83	87	90	81	72	70	72	72	71	78	80	
MEANS ‡ 11 DAYS				86	86	92	85	84	79	70	68	67	65	71	76	81	81	83	85	91	80	69	69	72	73	72	78	78	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER { }=DISTURBED BY BAD WEATHER

N= VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 514

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

AUGUST 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	749.4	10.0	94	17.6	3.8		3.3	..	0	N	1	NE	1	..	0	Ci; ASt; StCu	3- 7	Cu; StCu	6- 8	Dew early
2	747.1	12.8	60	18.9	7.9		8.0	..	0	NE	5	NNE	5	..	0	Ci; CiSt; ACu	3- 6	Ci; CiSt; ACu	3- 6	
3	745.2	11.1	57	21.6	2.3		9.7	..	0	N	2	NNW	4	SSW	2		0		0	
4	744.5	11.3	55	22.7	4.0		4.4	..	0	..	0	N	7	..	0	Ci; CiSt; CiCu; StCu	6- 8	StCu	3- 6	
5	742.7	12.9	69	20.4	7.8		0.4	..	0	N	2	WNW	7	N	1	ASt; Cu	10	ASt; Cu	10	
6	738.5	14.9	91	19.7	11.0	0.25	5.5	N	3	NW	6	W	12	NW	1	ASt; StCu; Nb	7-10	Cu; StCu; CuNb; Nb	7-10	Rain from early hours and during day; clear at night and de
7	742.0	11.7	92	17.8	5.8	0.09	4.3	..	0	N	2	W	8	W	1	ACu; Cu; CuNb; Nb	6- 8	Cu; StCu; CuNb	10- 3	Fog early; rain in am; clear sky at night
8	746.7	9.4	88	15.1	4.0	0.25	9.7	S	3	SSE	2	ESE	8	SE	2	Cu; FrCu; StCu	1- 6	FrCu; StCu	4- 6	
9	749.0	9.4	69	14.9	3[illegible]		9.8	SE	2	E	4	E	9	SE	3	ASt	0- 1		0	Dew early
10	742.6	12.2	51	21.3	4.[illegible]		9.0	NE	5	NE	9	NNE	13	WNW	1		0	ACu	1- 8	
11	740.8	15.0	93	20.1	11.8		2.8	NNW	2	NNW	6	W	13	..	0	ASt; Cu; Nb	7-10	ASt; Cu; Nb	7-10	Rain
12	742.3	14.4	95	18.9	10.6	0.14	3.9	..	0	N	2	WNW	8	NW	2	Cu	8- 3	Cu; CuNb	1- 3	Mist early; rain during day
13	740.7	14.2	84	16.7	10.7	0.23	8.2	WSW	3	SW	2	SSW	11	SW	3	Cu; FrCu	3- 6	Cu; FrCu	4- 6	Rain between 0h and 8h
14	749.1	10.0	61	13.4	5.4	0.01	9.9	S	9	SE	8	ESE	11	SE	3	ASt; FrCu	1- 3	ASt; FrCu	1- 3	
15	747.4	9.9	56	17.1	3.1		9.9	ESE	4	ENE	9	NE	7	..	0	ASt	1- 3	ASt	1- 3	Dew early
16	741.6	14.2	61	17.1	3.5		4.7	NNW	1	W	2	WSW	9	SW	2	StCu	1- 3	StCu	1- 3	
17	749.9	9.2	70	13.9	4.4	0.04	10.0	SSW	2	ESE	5	SE	6	SSE	2	ASt	1- 3	ASt	1- 3	Rain early; hazy at 9h
18	750.5	9.4	73	15.6	1.0		9.9	SSW	2	ESE	2	ESE	4	SE	5		0		0	Dew early
19	747.7	12.1	44	20.4	2.9		7.2	SE	2	ENE	6	ENE	6	E	1	ASt; Cu	1- 3	ASt; Cu	1- 3	Dew early
20	744.5	14.9	42	23.8	8.0		7.1	N	1	N	1	WNW	9	WSW	1	ACu; ASt; CiCu	10- 4	CiCu; ASt	1- 3	
21	745.8	11.7	75	19.8	8.7		6.2	..	0	SE	7	ESE	8	SE	1	CiSt; ASt; ACu	5-10	StCu; Cu	7-10	Dew early
22	739.5	16.4	52	19.9	11.7		0.0	SSE	1	ENE	1	SE	2	N	4	ASt; Cu; StCu	10	CuNb; Nb	10	Rain in pm
23	733.2	15.3	81	18.1	10.0	0.39	6.0	NW	2	NNW	6	WNW	21	WNW	7	ASt; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Rain
24	737.0	15.0	86	17.5	11.5	0.13	3.5	W	4	WNW	5	WSW	10	..	0	Cu; CuNb; Nb	7-10	Cu; CuNb	8- 6	Rain
25	738.5	12.8	86	17.0	10.0	0.05	3.6	..	0	WNW	3	WNW	13	N	4	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7-10	Rain
26	739.9	12.2	89	15.7	8.0	0.11	3.8	W	1	W	1	W	10	NNW	2	Cu; StCu; Nb	7-10	Cu; StCu; Nb	7-10	Light rain
27	740.8	13.0	92	17.3	10.6	0.11	5.9	W	6	WSW	4	SW	11	SW	3	ACu; Cu; StCu; Nb	10	Cu; StCu; Nb	9- 6	Light rain; cleared at night
28	748.4	10.0	75	15.9	4.0	0.07	10.4	SSW	2	ESE	4	E	4	SSE	3	Cu; FrCu	1- 3		0	Dew early
29	748.0	12.0	60	20.1	3.0		10.4	SSW	2	..	0	SSE	2	S	6	ACu	1- 3	ACu	1- 3	Dew early
30	747.9	14.7	53	21.6	4.5		10.3	S	3	ESE	7	NE	4	SE	3		0	Ci	1- 3	Dew early
31	744.9	16.7	33	25..	6.0		10.2	SE	2	NNE	2	NW	1	SE	1		0		0	Fires in N and W
SUM						1.87														
MEAN	744.1	12.5	70	18.6	6.6		6.7		2.0		3.7		7.9		2.1					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 515

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	⌈284	288	302	285	225	222	298	279	243⌋	315	304	285	260	234	226	224	225	⌈213	206⌋	254	240	242	255	267	257	0
2	✓	✓	✓	285	304	318	339	334	358	362	(356)	327	300	288	260	254	255	258	252	213	206	⌈194	195⌋	210	207	228	238	273	0
3	✓			266	274	282	294	290	300	302	318	348	356	330	298	240	206	190	194	195	198	194	196	255	252	255	250	262	0
4	✓	✓	✓	244	266	282	300	339	344	344	372	404	356	300	242	222	198	192	196	213	225	237	252	⌈226⌋	270	286	306	276	0
5	✓	✓	✓	357	362	360	388	414	417	405	420	422	408	390	332	315	267	220	194	190	182	195	200	212	240	252	255	308	0
6		-		250	219	214	213	208	≷162	138≷	210	≷158≷	165	≷129	156≷	147	148	≷146≷	147	152	160	166	189	200	⌈219⌋	237	238		1
7	✓			240	225	256	282	⌈288	210	290	291	280	339⌋	226	190	180	(190)	≷117	150≷	177	≷194	200	135≷	186	190	190	195	218	2
8	✓			192	165	165	172	174	176	190	194	214	224	198	166	152	156	159	160	165	174	184	190	194	195	180	194	181	0
9	✓	✓	✓	196	208	222	240	254	300	(348	340)	310	280	234	208	196	189	189	186	195	207	208	212	225	222	240	294	238	0
10	✓	✓		315	310	284	279	286	280	272	280	267	238	210	207	194	166	144	136	150	165	174	180	206	240	237	225	227	1
11	✓			208	⌈190	110	88	104	165	135	140⌋	165	≷162	178≷	176	168	165	152	165	154	159	166	176	182	206	200	190	163	1
12	✓			⌈195	189	130	178	170	213	242	280	260	196⌋	183	164	152	≷146≷	150	153	165	166	170	168	174	182	189	≷180≷	183	1
13	✓			195	≷166	150	153	118	159≷	166	170	178	166	165	156	152	154	153	153	154	159	164	165	177	176	171	164	162	2
14	✓			150	154	148	141	150	165	176	182	182	180	170	164	152	150	150	154	176	180	195	195	195	198	207	210	172	0
15	✓	✓	✓	226	258	312	332	356	336	333	342	286	266	225	194	176	176	170	166	166	176	160	174	198	210	236	256	239	0
16	✓	✓		282	288	300	306	310	⌈290⌋	315	342	232	196	176	180	192	190	184	186	182	180	194	195	192	195	183	162	227	1
17	✓	✓	✓	150	150	162	174	182	192	198	224	208	195	184	171	147	138	135	136	130	123	135	140	150	162	166	135	162	0
18	✓	✓	✓	122	132	129	138	150	164	171	190	225	210	200	194	195	194	176	186	195	190	192	195	210	212	224	237	185	0
19	✓			268	285	285	285	286	310	330	330	297	288	254	236	222	222	214	216	222	231	242	255	279	270	270	280	266	1
20	✓			320	326	340	330	326	332	345	352	348	315	297	246	210	196	194	184	189	192	194	208	222	224	194	166	260	0
21	✓	✓		189	⌈180	106	140	136	116	118	222⌋	236	240	256	255	240	(225)	226	225	226	224	214	225	230	238	254	267	208	0
22				290	276	300	330	346	346	344	338	⌈330	316⌋	296	296	≷242≷	297	284	≷207	213≷	218	196	≷180	105	129	146≷	166		1
23	✓			153	160	165	168	178	≷174≷	192	184	180	154	148	≷135≷	146	135	147	158	166	165	165	159	152	160	162	165	161	1
24	✓	✓		160	165	166	150	152	164	166	166	165	160	160	166	177	165	166	166	165	166	168	177	194	194	195	182	169	1
25	✓			189	184	190	194	198	210	204	210	206	180	174	164	166	165	165	165	≷164≷	162	158	164	172	164	150	154	177	1
26	✓	✓	✓	136	146	162	160	164	178	195	190	192	177	182	176	178	178	176	170	177	178	180	178	183	186	178	176	175	0
27	✓			166	166	170	174	174	178	180	180	176	≷166≷	165	≷162≷	165	160	165	165	174	176	(177	180	182)	183	184	194	173	1
28				182	177	178	182	183	192	194	252	242	230	224	207	189	(159)	144	148	162	165	160	150	164	150	147	148		0
29	✓	✓	✓	165	171	182	182	192	198	210	252	290	282	266	220	210	204	202	195	182	176	165	152	150	159	146	120	195	0
30	✓	✓	✓	116	118	108	120	146	165	195	242	240	220	225	230	224	208	200	208	208	206	183	183	198	210	224	224	192	0
31				230	256	285	303	348	356	346	350	318	261	238	225	198	194	⌈160	112	90	120	165⌋	182	182	195	214	226		0
MEANS * 27 DAYS				214	216	214	222	226	234	247	261	255	243	226	207	196	186	179	179	182	184	186	189	200	207	209	211	211	
MEANS † 15 DAYS				215	223	226	236	243	248	262	281	270	256	240	221	212	199	191	188	188	188	187	194	202	212	220	223	222	
MEANS ‡ 11 DAYS				207	218	231	242	251	261	278	292	286	274	254	228	216	204	195	192	190	189	187	194	200	211	221	228	227	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≷=DISTURBED BY BAD WEATHER

TABLE 516

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

AUGUST 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	⌈209	227	226	223	207	195	229	226	200⌋	291	283	275	232	210	193	185	177	⌈166	157⌋	195	186	188	202	204	212	0
2	✓	✓	✓	231	245	270	288	285	298	317	⌈284⌋	276	277	267	253	243	241	241	227	195	183	⌈172	158⌋	166	169	185	186	236	0
3	✓			212	222	241	266	264	265	286	314	326	328	320	296	241	204	194	178	172	158	157	180	218	193	193	194	234	0
4	✓	✓	✓	222	247	275	286	326	316	310	338	353	334	296	241	215	196	182	185	194	197	210	238	⌈198⌋	226	252	285	255	0
5	✓	✓	✓	299	310	330	354	366	365	388	402	390	378	371	326	317	275	211	194	186	(164	164	164	169)	209	210	218	282	0
6				—	195	182	173	—	≷208≶	—	—	≷179≶	145	≷150	108≶	134	143	≷156≶	136	133	133	134	130	145	⌈141⌋	160	172		1
7	✓			174	171	194	218	⌈221	166	256	253	256	306⌋	216	179	≷132	145	(193)	155	139	79	109	122≶	126	130	123	132	175	2
8	✓			138	123	119	112	109	125	131	134	158	196	195	(173)	158	157	157	154	157	147	146	155	157	152	132	130	146	0
9	✓	✓	✓	154	147	163	173	184	253	(274	239)	262	259	219	207	204	194	179	180	179	189	190	191	205	205	218	263	205	0
10	✓	✓		256	262	230	230	243	232	230	230	233	218	209	197	183	158	132	133	140	144	147	169	180	207	219	196	199	1
11	✓			179	⌈145	84	59	82	125	110	113⌋	147	≷156	171≶	158	161	161	≷156≶	146	143	(134	134	132	139	164)	183	161	139	1
12	✓			⌈134	147	84	145	122	191	232	263	229	183⌋	184	169	160	≷145≶	146	147	141	145	145	146	146	158	150	≷166≶	162	1
13	✓			157	≷177	155	150	178	157≶	133	113	154	145	151	146	149	150	146	143	134	136	122	121	122	126	122	117	142	2
14	✓			118	121	122	119	121	110	113	131	161	171	171	169	157	157	146	150	163	169	160	166	164	150	155	152	146	0
15	✓	✓	✓	175	219	276	285	294	284	285	295	278	263	219	193	169	163	160	147	139	135	113	133	158	172	209	241	209	0
16	✓	✓		246	263	274	278	297	⌈267⌋	280	309	218	191	172	171	177	171	168	161	158	143	127	138	130	134	136	126	197	1
17	✓	✓	✓	109	95	97	108	123	146	146	171	186	183	182	171	134	132	112	122	108	97	105	106	117	136	150	110	131	0
18	✓	✓	✓	109	106	91	105	112	133	134	155	205	207	188	182	183	180	174	171	174	171	154	158	167	179	186	197	159	0
19	✓			219	252	262	244	245	276	305	284	282	288	251	231	225	219	217	209	202	216	221	230	243	234	234	274	244	1
20	✓			304	308	323	318	320	320	333	331	327	318	301	255	218	205	183	172	166	158	147	172	173	171	161	156	243	0
21	✓	✓		149	⌈146	73	109	113	82	84	183⌋	232	240	253	251	233	230	(217)	216	205	186	184	193	191	209	217	237	185	0
22				255	264	285	328	—	—	—	—	⌈318	302⌋	285	292	≷288≶	284	277	≷253	253	215	209	147	146	147	150≶	143		1
23	✓			116	118	121	125	134	≷160≶	156	157	156	146	135	≷136≶	125	121	≷156≶	146	147	146	146	138	133	130	128	128	138	1
24	✓	✓		122	128	126	113	108	119	134	136	144	138	141	155	158	151	145	135	134	134	134	119	133	133	151	134	134	1
25	✓			108	121	105	131	172	150	156	160	182	169	167	158	163	164	157	158	≷160≶	151	146	144	134	134	119	125	147	1
26	✓	✓	✓	113	114	97	108	100	≷84	132≶	132	146	146	150	152	152	151	155	150	150	146	146	150	150	150	147	146	136	0
27	✓			135	139	138	135	134	136	143	138	150	144	138	≷80≶	133	136	145	136	133	122	110	108	109	100	119	125	129	1
28				97	104	109	108	108	117	—	—	207	207	204	194	171	145	(123)	121	134	134	133	109	126	121	123	133		0
29	✓	✓	✓	150	156	161	158	158	171	185	207	274	265	257	210	198	185	183	174	158	158	140	134	134	134	119	95	174	0
30	✓	✓	✓	82	82	79	86	108	134	151	203	243	219	218	218	218	205	196	197	194	184	158	(161)	151	169	183	185	168	0
31				208	230	245	274	307	—	—	—	318	270	241	230	208	194	⌈149	93	74	108	169	164⌋	—	171	184	195		0
MEANS * 27 DAYS				171	177	175	182	190	195	209	219	228	228	216	198	187	178	172	166	161	154	150	156	159	165	170	173	182	
MEANS † 15 DAYS				175	183	185	194	202	205	219	234	243	241	228	213	201	189	177	172	166	160	153	160	162	175	186	188	192	
MEANS ‡ 11 DAYS				168	177	188	198	206	216	232	241	256	257	241	221	206	194	181	176	169	163	155	163	164	176	187	194	197	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 517

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHAR-ACTER
1	✓	✓	✓	65	67	68	73	67	61	48	50	51	48	52	53	53	67	70	72	72	85	81	78	68	56	42	46	62	0
2				48	Z	Z	76	63	66	118	105	80	67	76	77	81	81	80	91	97	91	—	—	—	77	85	87		1
3				101	85	81	81	N 53	76	73	85	75	102	91	91	94	86	97	88	100	100	96	N 48	97	Z	110	100		1
4				94	N 72	80	Z	N 79	96	104	96	79	79	75	71	76	88	94	106	103	94	93	91	95	99	96	91		1
5	✓	✓	✓	86	86	90	79	90	90	97	91	80	86	87	97	90	94	104	101	114	101	76	95	108	95	91	86	92	0
6	✓			73	72	78	82	95	91	84	87	81	77	86	97	90	92	94	96	91	105	90	87	97	94	73	72	87	0
7	✓			75	78	80	87	85	72	61	66	72	77	82	82	81	81	94	93	94	90	80	86	91	91	86	81	82	0
8	✓	✓	✓	81	88	94	100	91	98	100	85	65	65	67	69	81	87	91	87	90	86	81	68	61	57	56	64	80	0
9	✓	✓	✓	90	72	72	90	58	66	57	63	62	70	78	87	96	105	105	110	101	98	91	80	63	63	67	72	80	0
10				63	54	53	77	N 91	N 48	115	106	Z	Z	Z	Z	Z	Z+	Z	Z+	135	114	N 72	N 81	N 96	92	103	96		1
11				97	99	99	92	87	72	53	86	71	67	—	—	—	70	58	67	78	72	72	76	70	63	58	53		1
12	✓	✓	✓	62	77	68	62	56	59	53	53	53	53	73	80	87	92	83	87	89	100	89	85	81	80	94	110	76	0
13	✓	✓		107	90	82	100	94	76	79	73	73	N 72	70	45	55	66	67	N 60	77	67	72	98	99	103	108	122	81	1
14	✓	✓		115	135	115	N 76	118	114	110	99	94	N 58	93	71	80	74	79	76	73	72	62	58	61	65	63	61	84	1
15				58	61	54	62	—	—	—	58	79	67	71	75	75	76	79	83	75	72	71	65	68	63	58	66		0
16	✓	✓	✓	62	42	52	43	38	46	41	62	59	57	66	68	66	62	63	73	71	72	66	44	61	74	72	66	59	0
17	✓	✓	✓	53	57	71	79	65	66	66	71	65	76	78	76	76	71	72	90	91	85	68	66	66	66	58	68	71	0
18				65	89	64	—	—	—	—	—	85	81	75	115	Z	N 65	90	100	92	82	80	73	81	91	82	89		1
19				96	73	61	64	54	59	53	73	80	71	69	81	76	76	72	75	73	76	84	76	84	87	91	—		0
20				—	—	—	—	—	—	—	—	52	56	57	57	57	—	—	—	66	54	43	49	54	57	53	67		0
21				56	53	53	48	40	38	36	43	47	58	62	60	63	71	89	86	85	85	81	67	—	—	106	119		0
22				102	86	—	—	—	—	—	—	109	107	98	103	100	98	99	98	96	100	86	80	63	81	77	80		0
23	✓	✓		61	57	53	53	46	41	54	65	72	75	75	N 57	90	80	81	95	90	91	N 74	86	107	123	109	107	77	1
24				97	91	83	N 91	160	164	172	173	109	N 91	Z	N 70	N 73	Z	70	91	82	76	85	80	86	85	81	84		1
25	✓	✓	✓	81	78	72	73	79	82	60	83	76	91	82	71	81	82	79	78	56	76	76	77	94	129	107	115	82	0
26	✓	✓	✓	82	115	126	136	134	133	114	113	92	89	78	76	72	80	87	85	89	87	82	85	76	99	86	104	97	0
27	✓	✓	✓	87	109	132	126	107	68	73	76	79	81	71	64	67	67	82	89	88	88	77	76	77	80	79	91	85	0
28	✓	✓		99	99	100	101	89	77	65	67	85	76	76	73	77	72	78	N 68	N 77	67	83	85	86	91	91	90	82	1
29	✓	✓	✓	109	123	138	115	96	89	84	78	78	81	83	95	100	105	100	101	113	109	101	100	110	104	86	76	99	0
30	✓	✓	✓	62	66	66	67	61	53	48	48	53	56	65	67	71	73	76	76	87	93	80	76	84	94	96	91	71	0
31																													
MEANS * 18 DAYS				81	84	86	86	82	77	72	74	72	72	76	74	78	81	84	85	87	87	79	79	83	87	81	85	80	
MEANS † 16 DAYS				81	85	87	86	81	76	72	74	71	71	75	72	78	80	82	84	86	86	79	79	81	86	82	86	80	
MEANS ‡ 12 DAYS				77	82	87	87	78	76	70	73	68	71	73	75	78	82	84	87	88	90	81	78	79	83	78	82	79	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALUE

TABLE 518

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	740.7	16.8	37	26.4	3.9		10.2	S	1	ENE	2	NNW	7	..	0		0	ACu	1- 8	Lightning in N in evening
2	737.6	17.0	82	21.6	10.0	0.05	4.7	..	0	N	1	NW	10	WNW	3	ACu; ASt; StCu	7- 8	CiSt; ACu; ASt	4- 6	Thundershowers in early hours, fog later
3	737.3	15.1	90	20.7	9.6	0.06	7.9	NNW	3	NNW	2	W	10	WNW	3	Cu; StCu; CuNb; Nb	4- 8	Cu; CuNb; Nb	7- 8	Rain
4	745.6	12.2	69	15.6	6.1	0.14	8.3	SSW	6	SSE	7	S	7	SSW	2	StCu; CuNb; Nb	1- 3	StCu; CuNb; Nb	4- 8	Rain in early am; clear sky at night
5	751.7	11.7	69	17.7	3.0		10.5	SSW	1	E	2	E	3	S	4	ASt	1- 3	Cu	1- 3	Dew early
6	749.8	13.3	68	19.3	4.0		10.6	S	3	SE	3	SSE	3	S	3	Cu	1- 3	Cu	1- 3	Dew early
7	748.9	14.4	67	21.1	4.8		10.7	S	3	E	1	WSW	1	S	3	Cu; FrCu	1- 3	Cu; FrCu	1- 3	Dew early
8	746.0	16.7	56	25.1	5.6		10.8	S	1	E	1	NNW	5	SSW	3		0		0	Dew early
9	740.2	17.8	56	24.8	2.9		10.8	..	0	NNW	2	WNW	8	WNW	1		0		0	
10	734.2	15.0	90	18.2	7.5	0.02	4.4	NNW	3	NW	18	W	12	WSW	4	Cu; CuNb; Nb	7-10	Cu; CuNb; Nb	7- 8	Heavy rain about 9h and after
11	744.2	13.1	77	16.3	6.8	0.32	2.5	..	0	..	0	..	0	SSW	1	Cu; StCu	7-10	Cu; StCu	7- 8	Light rain in early am
12	742.5	13.3	73	19.4	6.1		3.2	..	0	N	1	WNW	11	NW	3	StCu	7-10	StCu	7-10	Cloudy in evening
13	736.7	16.4	81	19.6	11.1	0.01	1.6	NW	5	W	9	W	15	W	2	ASt; StCu; Nb	7-10	ASt; StCu	6- 3	Light showers in am
14	741.2	14.2	65	17.8	8.8	0.03	6.3	..	0	WSW	4	WSW	9	WSW	1	CuNb; Nb	3- 9	CuNb; Nb	7- 8	Light showers
15	742.5	15.9	65	20.7	6.9	0.01	7.4	WNW	1	W	2	W	7	W	2	FrCu; StCu	7-10	FrCu; StCu	8- 1	Clear at night
16	741.7	15.7	89	21.7	5.9	T	5.7	..	0	N	1	W	6	..	0	Cu; FrCu; StCu; Nb	2- 8	StCu; Nb	6- 8	Light rain in am and evening; clearing at night
17	740.9	16.2	71	20.4	8.5		8.6	..	0	W	1	SSW	9	SW	1	ACu; Cu; StCu	4- 8	StCu; CuNb	8- 3	Dew early
18	740.5	14.7	72	19.1	10.0		6.6	..	0	S	1	SW	8	S	4	ACu; ASt; Cu; StCu	7- 8	ACu; ASt; StCu; CuNb	7- 8	Rain about 12h; cleared somewhat in evening
19	743.2	14.2	64	19.4	3.6	0.01	8.2	NW	1	SE	7	S	6	S	2	ASt; StCu	3- 8	ASt; StCu	8- 3	Clear sky in evening
20	745.8	13.5	65	21.1	1.9		10.8	S	1	ENE	8	NE	4	SE	2	FrCu; StCu	1- 6	CiSt	1- 3	
21	738.5	19.8	25	25.0	4.0		10.7	SSE	3	N	4	W	13	W	4	ASt	1- 3	ASt; Cu; Nb	4- 8	
22	740.7	16.7	64	21.6	7.6	T	9.6	WSW	2	W	4	WSW	9	WSW	2	Cu; StCu; CuNb	7- 8	Cu; StCu; CuNb	6- 1	Few drops rain in early am or previous night
23	739.4	17.3	61	21.3	4.2		7.9	N	1	NNW	5	W	16	NW	6	Cu; StCu	4- 8	Cu; Nb	7- 8	Rain in pm
24	737.0	14.8	87	16.8	12.5	0.15	6.1	NW	5	W	7	SW	11	W	1	Cu; StCu; Nb	4-10	Cu; StCu; Nb	10	Rain
25	741.3	13.6	70	18.2	4.5	0.05	6.0	WNW	2	W	6	W	13	NW	7	FrCu; StCu; CuNb	3- 6	StCu; CuNb	7-10	Light rain in pm
26	741.8	16.7	70	19.0	12.5	0.06	1.3	WSW	6	W	6	SW	9	WSW	2	StCu; Nb	7-10	StCu; Nb	7-10	
27	741.2	15.6	84	19.3	11.7	0.02	2.0	SW	2	NNW	2	SW	9	WSW	3	StCu; Nb	7-10	StCu	7-10	
28	741.0	16.7	64	20.3	8.5		7.1	WSW	3	SW	10	SW	12	SSW	3	Cu; StCu	3- 9	StCu; Nb	7-10	Light rain in pm; clear at night
29	747.2	11.8	55	17.9	5.0	0.02	11.1	S	4	SE	10	SE	8	SSE	5	Ci; CiSt	1- 3	Ci; CiSt	1- 3	Clear at night
30	748.1	14.3	50	20.8	5.0		11.1	SE	5	ENE	9	ESE	4	SSE	4	CiSt; FrCu; StCu	2-10	FrCu; StCu	10- 3	Heavy dew in evening
31																				
SUM						0.95														
MEAN	742.2	15.2	68	20.2	6.8		7.4	2.1		4.5		8.2		2.7						

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 519

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	259	263	272	274	292	317	338	367	352	350	311	277	214	181	168	171	153	155	142	148	184	199	200	216	242	0
2	✓			228	106	188	200	217	214	142	148	203	187	170	167	164	158	155	153	155	155	155	168	179	181	181	185	173	1
3	✓			188	210	211	197	196	188	194	184	184	165	156	155	155	153	153	153	155	153	150	151	162	133	158	168	170	1
4	✓			168	165	164	148	158	171	170	173	176	170	171	170	170	(162)	156	168	170	168	179	182	193	194	199	202	173	1
5	✓	✓	✓	210	214	216	245	233	203	184	214	226	203	188	177	156	148	138	127	125	133	133	136	170	184	187	188	181	0
6				184	184	197	200	194	182	199	197	184	179	170	158	156	155	155	155	155	164	168	170	184	199	245	260		0
7				—	—	—	—	—	—	—	—	223	207	179	167	168	170	170	173	164	164	162	171	187	188	193	188		0
8	✓	✓	✓	184	184	177	181	185	173	164	219	275	274	262	234	225	200	199	194	194	191	182	199	214	223	230	219	208	0
9	✓	✓	✓	211	230	236	230	275	262	291	323	311	266	223	199	188	182	179	156	164	155	144	170	170	171	173	179	212	0
10				225	—	—	—	—	—	—	—	—	—	—	—	104	136	127	136	141	150	142	145	153	165	167	167		1
11	✓			182	184	194	182	182	200	211	202	216	200	197	185	199	(196)	197	187	184	185	185	185	199	202	225	242	197	1
12	✓	✓	✓	233	225	228	240	252	282	286	286	288	254	203	168	153	153	153	155	153	164	168	170	168	171	170	173	204	0
13	✓	✓		187	208	170	171	164	165	164	167	156	153	148	151	153	155	151	150	139	136	133	138	141	139	151	155	156	1
14	✓	✓		156	167	168	151	155	156	168	184	164	153	153	155	153	151	153	162	165	162	173	184	185	193	197	199	167	1
15	✓			214	219	223	233	249	254	262	260	208	170	168	167	168	170	164	164	164	164	167	173	182	185	190	200	197	0
16	✓	✓	✓	214	257	277	312	332	341	367	278	275	246	196	177	168	168	168	162	165	167	171	177	191	184	210	230	226	0
17	✓	✓	✓	259	259	263	262	280	248	257	260	213	165	155	153	142	150	156	164	167	168	173	184	194	216	217	217	205	0
18				199	—	—	—	—	—	—	—	184	187	188	184	170	(153)	151	153	156	156	158	168	167	168	176	177		1
19	✓			194	230	260	245	289	269	277	230	188	185	187	181	168	170	167	165	168	158	155	170	176	184	188	190	200	0
20	✓			191	200	213	240	260	246	254	271	259	230	214	203	199	213	213	200	200	203	205	200	214	226	228	234	222	0
21	✓			262	280	295	323	370	378	381	369	332	272	231	234	216	188	155	155	153	155	158	156	155	158	165	164	238	0
22	✓			164	171	170	158	168	197	223	196	171	168	164	167	161	153	155	155	155	153	162	170	184	182	199	200	173	0
23	✓	✓		213	239	260	286	332	340	317	292	278	216	168	155	155	150	148	151	153	148	145	150	153	151	153	155	204	1
24	✓			153	159	168	165	153	148	136	138	153	148	142	148	155	161	155	138	147	150	155	162	182	194	197	190	158	1
25	✓	✓	✓	210	228	230	216	216	219	243	230	197	184	170	168	168	(167)	164	165	168	168	165	156	161	158	165	158	186	0
26	✓	✓	✓	147	139	139	139	150	153	156	158	156	153	155	153	167	162	156	165	155	164	168	170	182	173	182	170	159	0
27	✓	✓	✓	184	185	185	194	188	217	225	199	200	182	173	177	170	170	165	164	168	168	170	184	211	203	214	223	188	0
28	✓	✓		213	207	200	203	214	217	230	237	168	155	141	148	153	153	156	168	173	171	170	168	182	185	191	193	183	1
29	✓	✓	✓	188	165	148	168	200	208	210	216	200	190	168	153	138	127	122	116	118	122	132	125	142	151	181	196	162	0
30	✓	✓	✓	207	230	231	260	304	321	349	315	286	265	243	214	196	185	176	162	148	142	148	159	162	162	158	159	216	0
31																													
MEANS * 26 DAYS				201	205	211	216	231	234	238	237	224	204	187	178	171	166	162	160	160	160	161	167	178	181	189	192	192	
MEANS † 16 DAYS				205	212	212	221	236	239	247	247	234	213	191	179	169	163	160	158	157	157	157	164	176	179	186	189	194	
MEANS ‡ 12 DAYS				209	215	217	227	242	245	256	255	248	228	204	188	174	166	162	158	156	158	158	165	179	183	191	194	199	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷=DISTURBED BY BAD WEATHER

TABLE 520

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

SEPTEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	223	234	240	243	260	292	314	324	325	340	(337)	306	217	174	169	172	149	145	142	137	150	174	188	187	227	0
2	✓			186	233	104	145	147	176	[121	133	184]	183	163	159	158	150	143	138	135	138	137	143	147	149	150	155	153	1
3	✓			148	(155	164)	172	176	168	(166	164)	162	137	145	143	143	145	135	135	137	134	124	145	134	142	120	125	147	1
4	✓			124	140	122	125	124	94	98	124	147	148	158	157	155	149	(147)	140	137	125	112	121	125	130	138	148	133	1
5	✓	✓	✓	157	149	[131	163]	159	138	124	158	196	187	174	160	145	125	108	116	99	107	107	96	120	144	138	(147)	140	0
6				—	—	—	—	—	—	—	—	168	164	148	137	145	143	137	134	134	133	137	144	133	133	149	153		0
7				174	171	172	159	163	179	189	193	172	172	145	144	148	155	150	144	133	122	121	137	142	143	140	135		0
8	✓	✓	✓	135	135	135	134	154	135	121	184	255	258	256	233	222	208	199	184	183	168	150	172	186	201	211	197	184	0
9	✓	✓	✓	171	196	174	183	196	233	279	280	280	251	211	203	188	181	171	148	145	138	125	137	145	148	158	159	188	0
10				211	234	220	229	188	134	148	148	138	134	133	124	147	144	137	121	125	122	121	121	118	120	112	104		1
11	✓			[95	122	95	109	121]	147	158	135	168	162	168	169	171	(168)	168	163	155	147	139	135	147	148	159	171	147	1
12	✓	✓	✓	158	155	149	154	220	219	235	252	267	249	208	176	168	163	159	157	147	147	148	(158	155	148)	145	145	178	0
13	✓	✓		157	171	163	160	162	163	162	163	148	147	147	148	163	160	148	145	125	122	120	109	113	108	120	118	143	1
14	✓	✓		125	99	108	134	108	120	120	133	134	138	137	140	145	135	138	144	138	137	138	145	149	158	167	172	136	1
15	✓			188	194	204	202	215	228	233	237	186	160	158	154	163	172	157	149	145	144	140	145	137	142	157	148	173	0
16	✓	✓	✓	191	209	220	269	292	312	329	257	244	232	188	173	168	171	159	148	148	139	138	147	147	135	163	186	199	0
17	✓	✓	✓	222	232	[207	197]	239	208	222	231	194	148	135	142	134	135	145	143	137	135	134	142	149	172	194	172	174	0
18				171	143	139	155	133	152	158	157	157	158	172	168	124	159	(148)	137	134	135	131	135	134	135	138	135		1
19	✓			135	[184	186	183	198	237	222]	196	177	177	171	169	167	160	159	157	147	134	122	134	135	134	163	169	167	0
20	✓			148	154	168	[194	201	210]	245	251	245	222	210	208	202	208	199	184	184	182	184	171	186	199	209	214	198	0
21	✓			247	269	286	302	349	374	381	360	334	280	[245	250]	233	197	159	159	147	143	134	138	142	145	134	120	230	0
22	✓			121	137	125	117	108	148	173	166	159	158	154	155	150	152	147	144	134	124	121	126	160	147	134	154	142	0
23	✓	✓	✓	183	199	233	272	313	332	293	271	274	209	169	160	168	162	144	143	143	137	135	137	131	124	129	142	192	1
24	✓			138	143	149	147	113	111	104	108	128	137	113	148	157	138	145	139	131	131	121	120	130	147	145	148	133	1
25	✓	✓	✓	159	172	181	147	158	164	173	197	172	163	172	164	163	166	(153)	158	150	148	150	145	137	133	135	129	158	0
26	✓	✓	✓	134	109	109	107	107	100	104	122	124	124	130	139	147	145	144	138	128	126	125	125	130	122	134	125	125	0
27	✓	✓	✓	[96	91	103	104	112	139]	172	163	157	148	152	150	147	147	143	139	137	135	125	134	154	152	159	155	138	0
28	✓	✓		143	139	137	139	150	163	181	186	145	135	122	137	138	135	138	147	147	148	138	129	134	126	130	133	142	1
29	✓	✓	✓	134	122	96	121	157	148	162	201	198	196	172	158	134	116	108	96	95	104	105	95	99	108	137	150	134	0
30	✓	✓	✓	155	187	196	231	269	301	323	302	278	262	246	220	204	187	171	150	134	121	112	121	125	122	125	134	195	0
31																													
MEANS * 26 DAYS				157	167	161	171	185	195	199	204	203	190	178	174	167	160	152	148	141	137	132	135	141	145	152	154	164	
MEANS † 16 DAYS				159	162	161	172	191	198	207	214	212	199	185	176	166	157	150	146	138	135	131	133	139	142	152	153	166	
MEANS ‡ 12 DAYS				161	166	162	171	194	199	213	223	224	213	198	185	170	160	152	146	138	134	130	134	141	147	157	157	170	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

TABLE 521

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED :120° EAST MERIDIAN MEAN TIME)

OCTOBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	86	100	120	104	86	72	63	60	54	54	57	66	67	71	84	86	81	89	90	96	96	100	96	[85]	82	0
2				—	—	57	—	—	—	102	—	96	100	96	91	93	99	110	104	102	96	96	97	118	116	125	147		0
3	✓			176	167	138	100	86	76	67	68	80	77	81	84	90	86	91	95	105	105	100	104	105	103	105	91	99	0
4	✓	✓		80	76	70	66	57	53	51	49	55	67	71	67	68	73	80	76	77	76	73	61	81	80	77	87	70	0
5	✓	✓	✓	97	111	115	98	96	67	97	78	82	76	74	71	66	80	96	106	90	96	95	94	96	96	73	91	89	0
6	✓	✓	✓	127	145	163	153	130	91	73	72	66	67	68	76	81	82	82	99	108	99	95	98	106	100	128	148	102	0
7	✓	✓	✓	152	139	130	119	100	86	74	58	62	58	65	74	75	71	76	68	79	77	71	76	86	91	92	89	86	0
8	✓	✓	✓	67	67	68	67	57	52	48	45	46	57	66	71	76	71	71	83	76	80	68	73	95	110	109	86	71	0
9	✓	✓		76	67	55	56	54	52	45	53	56	53	52	66	70	67	63	77	72	81	85	87	96	100	96	N 79	69	1
10	✓	✓	✓	84	96	96	92	85	71	75	67	54	48	53	67	68	70	75	81	77	80	86	95	107	130	130	149	85	0
11	✓			145	142	143	167	166	132	119	104	105	86	81	81	86	86	86	85	91	78	83	77	76	73	94	115	104	0
12				125	116	110	105	120	109	Z	99	Z	Z	N125	148	N120	Z	Z	N 96	102	105	120	105	90	98	124	104		1
13	✓	✓		99	96	103	101	96	72	89	81	91	76	92	86	N 74	91	86	95	88	91	90	95	100	105	104	99	92	1
14				105	118	99	—	—	—	—	66	61	75	74	76	87	90	96	90	85	86	96	112	116	115	119	115		0
15	✓	✓	✓	114	110	110	105	115	89	87	86	81	79	86	90	95	95	109	110	103	114	104	111	119	130	110	91	102	0
16	✓			90	87	86	83	66	68	75	91	63	61	58	57	57	61	62	71	73	76	76	83	97	103	101	106	77	0
17	✓			105	142	97	109	77	72	66	-5	81	73	72	72	72	74	77	88	96	93	86	91	102	103	115	115	86	1
18	✓	✓	✓	110	106	77	85	67	65	96	96	97	91	81	86	80	75	70	76	82	81	76	76	90	92	91	86	85	0
19	✓	✓	✓	76	[61	63	59	58	58]	79	86	82	72	73	86	87	88	82	79	81	89	72	82	105	106	91	103	80	0
20	✓	✓	✓	115	110	104	110	109	[100	81	89]	94	100	96	99	95	96	100	102	107	99	100	96	97	95	70	90	98	0
21	✓	✓	✓	91	77	[139	130	139	127	109]	61	65	76	76	86	82	88	60	55	72	68	57	70	81	91	95	68	87	0
22	✓	✓	✓	81	86	86	[69	70	56]	68	70	57	66	66	68	76	85	77	76	83	76	76	75	72	72	85	72	74	0
23				76	49	49	42	45	41	42	50	72	77	81	77	77	83	Z+	119	98	Z	103	105	105	—	—	—		1
24				106	111	115	110	100	110	105	100	91	96	96	105	106	116	125	123	124	134	148	143	130	—	—	—		0
25	✓			120	135	156	148	143	122	102	82	73	86	87	85	96	96	94	100	103	118	120	110	114	119	120	111	110	0
26				131	137	—	—	—	—	110	104	91	88	101	103	96	112	130	131	112	110	105	104	96	110	109	81		0
27				—	—	—	—	—	--	[165	96]	72	72	77	74	87	87	96	101	100	93	103	115	125	134	119	120		0
28	✓	✓		114	111	106	85	69	71	62	62	67	59	69	79	72	72	81	82	77	N 19	95	N 48	85	100	111	121	80	1
29				110	—	—	—	—	—	82	79	72	72	67	74	62	71	71	75	81	81	77	90	67	101	96	115		0
30	✓			104	100	118	130	130	126	101	94	91	86	81	87	77	82	82	84	83	102	129	130	128	124	131	130	105	0
31	✓			129	120	105	89	79	71	71	62	57	61	65	67	76	71	72	67	64	69	72	76	99	112	111	114	82	0
MEANS * 23 DAYS				106	107	106	101	93	80	78	70	72	71	73	77	78	80	81	84	86	85	87	87	97	102	102	102	88	
MEANS † 16 DAYS				98	97	100	94	87	74	75	70	69	69	72	77	77	80	81	84	85	82	83	83	94	100	97	98	84	
MEANS ‡ 12 DAYS				100	101	106	99	93	78	79	72	70	70	72	78	79	81	82	85	87	87	82	87	96	101	98	98	87	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z-=INDETERMINATE NEGATIVE VALU

TABLE 522

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02^h–03^h		08^h–09^h		14^h–15^h		20^h–21^h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	745.2	18.1	34	26.1	4.7		11.5	SW	3	NNE	3	WNW	3	S	4	FrCu; StCu	3- 6	FrCu; StCu	3- 6	Heavy dew early; clear at night
2	745.4	15.8	62	20.9	5.0		11.4	S	2	ESE	6	SSE	6	S	5	Ci; FrCu; StCu	1- 3	Ci; FrCu	0- 1	Heavy dew early; clear at night
3	746.2	13.9	55	22.8	7.5		11.2	S	3	ESE	12	ESE	10	SSE	4	Ci; ACu	1- 3	Ci; ACu	0- 1	
4	740.1	20.8	36	29.1	8.0		10.9	SSE	1	ENE	4	WNW	11	SW	6	Ci; CiSt	8- 3	Ci; StCu; CuNb	3- 8	Light shower about 22^h
5	743.7	15.6	59	17.8	9.0	0.01	7.5	WSW	4	WSW	4	SSW	8	S	2	StCu; CuNb; Nb	7-10	Cu; CuNb; Nb	8- 3	Showers 7^h to 9^h
6	747.6	13.1	48	18.3	4.0	T	11.5	S	3	SE	9	SSE	5	S	7	Cu	0- 1	Cu	0- 1	
7	746.2	14.8	46	22.0	4.0		10.9	S	2	ESE	6	E	5	SE	3	Cu	1- 3	Cu	4- 6	
8	743.4	19.5	28	25.3	5.8		10.7	SSE	2	NE	5	WSW	2	S	4	ASt; Cu	1- 3	Cu	1- 3	
9	742.6	19.4	32	25.5	7.5		9.5	SE	3	E	2	S	2	S	4	CiCu; ASt; StCu	1- 3	Cu	4- 8	
10	742.0	20.0	31	25.9	6.6		11.3	S	3	E	2	WSW	4	SSW	3	CiSt	0- 1	CiSt; Cu	1- 3	
11	739.3	16.1	64	20.3	9.5		8.8	SSW	1	SSW	9	SSW	11	SSW	4	CiCu; StCu	6-10	StCu; CuNb	7- 8	Light rain in evening
12	736.5	13.2	74	17.7	4.0	0.07	8.1	WNW	2	WSW	11	SSW	14	SW	5	Cu; FrCu; CuNb; Nb	5- 8	Cu; CuNb; Nb	7- 8	Light rain
13	738.3	14.4	71	19.7	9.8		6.8	WSW	3	S	9	S	8	SSW	3	Cu; StCu; CuNb	7-10	Cu; StCu; CuNb	7-10	Few drops rain; clear sky at night
14	741.4	14.4	64	19.2	10.9	0.02	5.6	S	2	ESE	7	S	3	S	2	ASt; StCu; Cu	7-10	Cu; StCu	6- 8	Clear at night
15	743.6	15.4	46	21.0	2.5		11.9	SSE	2	E	1	SSW	2	S	4	StCu; Cu	1- 3	StCu; Cu	1- 3	
16	741.9	17.8	41	26.6	4.0		11.6	S	2	ESE	3	W	5	SSW	5		0	Cu	1- 3	
17	739.6	19.4	45	25.5	9.4		9.9	S	3	SSW	5	SW	10	SSW	5	ASt; Cu	1- 4	Cu	1- 3	
18	741.6	17.3	66	22.4	9.7		6.8	..	0	SSE	4	SSW	7	SSW	4	ASt; Cu; StCu	7- 8	ASt; Cu; StCu	7- 8	Clear at night
19	742.8	16.0	44	24.0	4.2		11.7	SSW	1	SE	2	SW	5	SSW	2		0		0	
20	740.5	18.3	60	25.3	7.6		11.7	SSW	3	S	5	SW	6	SSW	4		0		0	
21	738.6	19.4	62	23.9	5.9		8.1	SW	2	NNW	4	SW	15	S	3	FrCu	4- 6	FrCu: CuNb; Nb	4-10	Heavy mist about 5^h; light rain 15^h; clearing after 20^h5
22	740.4	15.8	45	21.1	7.0	T	8.6	SW	2	SSW	4	W	6	SW	2	ASt; FrCu; StCu	6- 8	ASt; FrCu; StCu	6- 8	
23	738.3	18.9	45	21.2	2.7		6.2	W	1	WNW	10	WSW	13	SW	2	Cu; StCu	1- 9	StCu; CuNb	7-10	Light rain 14^h to 16^h; clear at night, with dew
24	746.2	16.0	51	20.0	6.3	0.05	12.0	SSW	3	SE	9	SSE	6	SSW	4	FrCu; StCu	6- 9	FrCu; StCu	6- 3	Nearly clear at night with heavy dew
25	746.9	16.7	49	25.6	4.8		11.9	S	3	SSE	3	SW	2	SSW	2		0		0	Heavy dew early and at night
26	745.9	16.1	61	25.8	4.5		12.0	S	2	SSE	4	S	4	S	4		0		0	Dew early
27	745.6	19.8	61	31.1	11.0		11.3	S	5	ESE	5	SSE	1	S	4	ACu	10- 1		0	Mist early
28	741.0	27.8	24	33.4	11.5		7.9	S	1	ENE	5	WSW	13	WSW	10	CiSt	6- 9	ACu; ASt	10- 6	Lightning in N in evening
29	740.2	18.7	65	23.2	13.7		4.4	W	1	WSW	6	WSW	7	SW	3	StCu	7-10	StCu; Nb	7-10	Rain in evening
30	743.1	18.3	45	20.7	10.4	0.02	11.1	S	4	SSE	8	S	7	SSW	6	ASt; Cu; StCu	3- 8	Cu; StCu	7- 8	Clear at night
31	743.7	16.4	52	24.0	7.6		12.2	SSW	2	SE	11	ESE	7	S	5	CiSt; Cu	1- 3	CiSt	4- 8	
SUM						0.17														
MEAN	742.5	17.3	50	23.4	7.1		9.8		2.3		5.7		6.7		4.0					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 523

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	174	173	174	185	203	206	297	(314)	309	300	272	210	203	188	185	184	174	162	168	151	152	155	146	141	201	0
2				157	168	170	157	159	⌈171	188⌋	187	193	177	159	163	173	(168)	173	188	206	203	193	174	135	138	127	111		0
3				121	127	155	203	234	245	250	239	221	204	184	159	155	155	146	151	154	152	155	152	157	171	173	193		0
4	✓	✓		220	253	286	306	330	342	363	394	308	248	231	214	206	206	190	199	209	206	188	165	168	146	143	155	236	0
5	✓	✓	✓	168	171	168	165	168	187	182	174	177	265	159	160	143	140	155	157	160	159	157	162	174	187	203	190	172	0
6	✓	✓	✓	154	141	135	140	160	188	206	220	223	231	206	174	154	130	138	140	129	121	127	129	140	141	127	119	157	0
7	✓	✓	✓	126	137	157	177	204	228	268	298	314	308	278	236	210	209	206	204	201	190	187	177	187	185	174	184	210	0
8	✓	✓	✓	206	239	265	279	300	328	358	391	325	268	231	190	176	171	173	168	160	155	155	157	152	143	141	160	220	0
9	✓	✓		199	239	284	309	298	294	300	300	284	251	250	220	185	(176)	157	159	152	146	155	160	171	173	181	173	217	1
10	✓	✓	✓	176	174	174	177	199	204	217	234	267	270	237	209	184	182	173	160	159	157	160	160	157	165	162	154	188	0
11				—	—	—	—	—	—	—	—	151	157	157	157	157	159	157	152	154	155	154	160	159	141	152	157		0
12	✓			162	171	176	188	192	⟨220	171⟩	168	⟨166⟩	154	155	155	⟨138⟩	152	146	152	152	143	141	140	149	143	160	159	161	1
13	✓	✓		170	171	168	171	174	187	184	173	174	176	177	168	⟨159⟩	160	162	162	173	170	173	170	168	171	171	173	171	1
14	✓			162	160	162	155	154	160	206	220	220	206	204	204	210	206	203	201	207	207	184	146	143	140	144	144	181	0
15	✓	✓	✓	140	138	146	155	141	159	176	204	206	187	170	157	159	168	171	170	170	171	168	159	157	168	173	179	166	0
16				188	190	198	190	198	190	203	218	228	248	246	236	218	(212)	188	185	171	171	155	137	129	140	148	146		0
17				126	121	115	126	157	174	187	⟨174⟩	168	160	171	171	165	157	154	151	152	144	152	155	157	159	159	160		1
18	✓	✓	✓	171	188	234	201	206	193	190	176	168	173	174	179	174	173	162	157	140	143	143	143	157	157	159	168	172	0
19	✓	✓	✓	173	⌈206	209	220	206	218⌋	209	184	188	196	185	174	157	155	155	160	149	119	137	140	146	141	143	140	171	0
20	✓	✓	✓	143	165	171	157	168	⌈177	207	192⌋	157	141	140	144	155	152	149	148	144	143	143	144	162	171	173	170	159	0
21	✓	✓	✓	174	181	⌈110	102	107	130	157⌋	231	218	162	152	141	137	157	141	140	143	144	140	122	143	152	151	173	150	0
22	✓	✓	✓	190	199	209	⌈251	246	253⌋	220	190	174	173	173	168	170	171	173	170	162	157	155	165	187	201	193	199	190	0
23			‡	204	281	250	279	298	356	375	339	192	173	168	154	141	(126)	115	124	126	⟨113⟩	127	130	143	146	152	162		1
24	✓			174	181	177	187	181	168	181	174	173	159	157	162	160	143	133	141	127	122	110	119	129	141	155	157	155	0
25				159	157	141	137	129	141	160	184	201	184	168	162	157	157	159	155	144	121	105	111	141	143	155	157		0
26	✓			159	168	171	173	159	140	160	187	174	173	165	160	173	137	111	121	141	155	152	157	144	151	155	155	156	0
27				⌈155	88	94	86	47	61	89	165⌋	204	203	198	173	160	159	166	157	155	141	127	115	135	127	133	135		0
28	✓	✓		140	143	152	187	225	262	283	294	256	253	218	203	209	174	166	152	130	129	135	126	127	129	127	126	181	1
29	✓			155	152	144	141	141	143	137	138	126	143	143	152	154	155	154	143	141	140	152	157	140	137	152	154	146	0
30				154	157	140	127	126	127	141	157	157	154	155	157	160	(159)	157	154	130	126	110	105	127	140	140	141		0
31				135	155	177	207	225	231	228	221	220	207	188	174	157	152	155	159	151	155	157	160	140	133	127	138		0
MEANS * 21 DAYS				168	179	184	192	198	209	222	231	219	211	194	180	172	166	162	161	158	154	154	150	155	157	159	161	179	
MEANS † 16 DAYS				170	182	190	199	208	222	239	248	234	225	203	184	174	168	166	164	160	154	156	152	159	162	160	163	186	
MEANS ‡ 12 DAYS				166	176	179	184	192	206	224	234	227	223	198	178	168	165	165	163	158	152	153	151	160	164	162	165	180	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ⟨ ⟩=DISTURBED BY BAD WEATHER

TABLE 524

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

OCTOBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	153	156	146	157	187	193	193	[224]	293	299	282	222	212	192	181	171	161	156	144	125	129	(128)	102	102	180	0
2				105	108	104	102	90	[86	110]	158	181	167	157	154	168	158	156	169	182	178	167	146	104	105	—	—		0
3				—	—	—	—	—	—	—	—	—	—	181	166	154	146	140	135	133	139	139	127	128	131	143	158		0
4	✓	✓		196	229	238	266	296	303	323	359	303	240	233	219	223	218	196	195	202	201	192	164	143	128	128	133	222	0
5	✓	✓	✓	140	132	128	129	129	131	140	154	156	156	156	157	144	133	143	143	146	133	123	127	121	128	157	143	140	0
6	✓	✓	✓	113	98	89	91	116	147	173	207	218	226	205	174	143	123	125	119	102	97	94	97	109	116	91	86	132	0
7	✓	✓	✓	78	89	117	140	167	183	226	290	313	308	275	230	205	195	193	188	180	171	157	144	144	152	144	154	185	0
8	✓	✓	✓	180	201	216	236	246	289	319	374	321	269	226	193	181	169	158	146	143	133	127	121	128	114	117	140	198	0
9	✓	✓		168	202	233	247	266	254	260	278	267	241	241	206	182	169	(158)	144	143	135	133	139	136	142	143	154	193	1
10	✓	✓	✓	156	152	146	156	172	192	187	203	230	245	227	203	180	168	171	144	143	143	131	128	117	116	117	102	164	0
11				113	97	90	95	99	124	116	144	140	140	142	140	144	152	146	140	140	142	133	132	124	121	120	116		0
12	✓			116	116	125	140	142	154	166	156	90	102	164	156	144	119	129	146	135	131	120	(119	119	117)	116	128	131	1
13	✓	✓		129	120	125	128	127	140	146	156	157	162	159	154	152	146	144	142	146	143	143	142	132	133	142	142	142	1
14	✓			132	131	129	117	117	131	190	216	219	205	192	188	190	181	178	181	180	177	154	125	114	105	106	113	157	0
15	✓	✓	✓	93	98	101	109	101	132	143	172	181	167	154	144	143	143	152	144	143	142	129	119	125	131	129	133	134	0
16				133	143	154	156	156	163	171	197	221	232	221	217	218	197	(168)	176	163	154	129	120	113	116	—	—		0
17				—	—	—	—	—	—	—	—	168	153	154	154	147	146	143	139	129	131	131	133	132	129	125	121		1
18	✓	✓	✓	106	112	116	131	154	144	143	144	129	142	157	158	164	(156	149)	143	124	128	125	125	128	127	125	119	135	0
19	✓	✓	✓	128	[143	140	177	169	171]	157	147	159	172	168	158	154	152	140	151	128	112	120	117	112	104	102	90	140	0
20	✓	✓	✓	102	117	129	117	128	[129	167	167]	140	125	117	117	133	132	129	125	129	127	120	120	(123)	124	128	128	128	0
21	✓	✓	✓	124	128	[70	62	78	102	156]	216	215	159	143	129	128	120	129	125	129	129	124	120	113	93	106	128	126	0
22	✓	✓	✓	158	143	143	[181	192	210]	192	168	169	172	157	153	151	156	157	152	144	132	128	129	146	151	154	166	158	0
23				158	186	195	234	277	330	357	336	203	177	167	156	146	—	—	—	—	—	—	—	—	—	—	—		1
24	✓			131	125	119	132	133	114	131	147	164	154	154	156	159	142	120	129	105	97	79	94	105	112	116	116	126	0
25				102	86	85	78	85	93	129	167	181	163	154	146	143	140	133	129	125	—	—	—	—	117	128	104		0
26	✓			(116)	108	102	117	114	93	112	171	167	164	151	143	158	113	90	94	123	128	116	105	129	128	124	125	125	0
27				—	—	—	—	—	—	—	—	205	202	195	180	156	153	147	143	131	120	114	104	114	102	97	101		0
28	✓	✓		106	112	120	167	206	245	258	268	254	255	234	221	221	180	162	146	131	143	139	125	119	117	112	98	172	1
29	✓			82	104	105	113	144	136	129	128	125	129	138	143	143	144	147	143	131	127	114	143	(136)	128	117	112	128	0
30				106	114	112	102	97	99	120	156	157	154	158	156	162	158	(156)	152	127	114	93	98	116	123	—	—		0
31				—	—	—	—	—	—	—	—	233	229	207	193	168	157	162	157	156	154	144	140	120	112	106	109		0
MEANS * 21 DAYS				129	134	135	148	161	171	186	207	203	195	187	173	167	155	150	146	141	137	129	125	125	124	123	124	153	
MEANS † 16 DAYS				133	140	141	156	171	185	199	220	219	209	196	177	170	160	155	149	143	139	133	128	127	125	125	126	159	
MEANS ‡ 12 DAYS				128	131	128	140	153	169	183	206	210	203	189	170	162	153	152	146	139	134	127	123	125	124	123	124	152	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≷=DISTURBED BY BAD WEATHER

TABLE 525

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	100	76	67	63	60	55	57	58	55	63	68	73	81	82	82	81	77	78	73	68	68	67	87	83	72	0
2	✓	✓	✓	70	63	62	68	74	68	65	65	68	72	74	81	87	79	[97	97	81]	83	83	87	116	111	88	74	80	0
3				66	62	67	N 53	57	Z	Z	53	53	74	102	81	Z	Z	N 19	89	92	87	73	89	—	—	102	102		1
4	✓			[121	112	123	134	120	133]	63	57	78	67	75	[194]	102	95	87	89	86	87	89	96	91	82	85	[78]	98	0
5	✓	✓	✓	[82	83	76	47	44	51	48	63]	63	63	67	68	70	70	78	79	79	78	73	70	73	85	85	77	70	0
6				81	96	102	73	96	97	Z	82	Z+	77	79	98	N 68	N 81	78	86	102	98	94	107	91	100	97	92		1
7	✓	✓		107	114	94	91	114	97	69	105	92	84	N 78	75	87	87	96	65	82	86	100	104	103	111	96	96	93	1
8	✓	✓	✓	97	104	102	92	102	76	68	78	82	83	85	83	78	77	80	87	90	93	101	97	100	107	107	112	91	0
9	✓	✓	✓	126	122	102	83	70	61	56	61	59	59	62	65	78	73	70	64	76	73	75	77	79	97	100	112	79	0
10	✓	✓	✓	112	112	106	78	64	52	49	48	53	58	61	63	67	72	76	94	73	77	82	78	101	109	128	126	81	0
11	✓			116	107	121	121	102	83	82	77	70	71	81	78	92	88	110	106	106	111	136	131	116	126	140	122	104	0
12	✓	✓	✓	141	145	137	112	97	84	82	77	83	81	81	80	79	82	94	96	92	97	102	112	109	112	97	93	99	0
13	✓	✓		92	97	96	90	79	68	66	57	53	63	58	59	58	68	68	-44	63	73	82	97	86	63	N 18	80	66	1
14	✓	✓		78	77	66	121	N 87	74	63	68	72	81	85	88	84	81	86	86	86	82	89	97	91	86	82	78	83	1
15	✓	✓	✓	74	71	72	68	65	62	61	59	59	61	60	61	58	54	60	73	70	72	86	93	97	96	91	83	71	0
16	✓	✓	✓	82	83	83	77	73	63	63	63	48	54	53	54	58	60	62	61	63	65	72	82	93	103	112	98	72	0
17	✓	✓	✓	83	73	74	69	63	64	64	62	62	58	62	69	75	73	81	81	78	93	121	121	132	117	108	98	83	0
18	✓	✓	✓	102	122	121	97	69	48	39	48	68	65	64	65	64	66	75	78	64	63	72	74	[102	112	111	112	79	0
19				[97]	69	53	44	35	33	34	35	57	48	51	53	57	Z-	Z	Z	Z	62	58	67	63	76	58	53		2
20	✓			68	67	49	47	[62	141	87]	70	67	63	76	78	80	87	87	89	84	85	85	82	82	71	81	73	78	0
21				—	—	—	—	—	—	[123	107]	87	84	97	107	115	116	120	126	116	121	112	126	137	114	132	128		0
22	✓	✓	✓	134	117	107	58	35	49	72	102	85	87	88	95	103	90	101	10	96	92	115	92	81	116	112	107	93	0
23	✓			115	102	[71	61	57	59	77	88]	82	74	83	92	80	96	93	90	91	97	98	[131	131]	105	107	110	91	0
24	✓			122	101	102	102	63	57	77	82	81	86	84	88	81	83	83	81	96	87	86	94	100	94	87	87	88	0
25	✓	✓	✓	83	83	80	67	53	47	83	96	87	85	102	83	96	100	107	97	98	102	102	102	108	126	119	118	93	0
26				120	110	110	90	69	72	65	77	78	—	78	—	—	—	85	—	103	91	106	121	120	121	125	112		0
27	✓			103	71	62	50	45	53	93	92	63	75	94	97	97	97	100	112	111	120	121	131	118	N 96	134	118	94	1
28	✓			134	131	159	146	137	124	121	112	112	107	111	[107	112	122	129	126	131	118	116	142	115	116	125	131]	124	0
29	✓	✓		[132	128	128	112]	79	59	59	58	58	58	66	78	79	73	78	89	88	94	97	102	[161	189	194	190	102	0
30	✓	✓		[161	136	129]	113	68	61	48	54	60	72	79	80	77	83	80	82	81	82	81	[86	117	146	166	169]	96	0
31																													
MEANS * 25 DAYS				105	100	96	87	75	72	68	72	70	72	76	82	81	82	86	83	86	88	93	98	103	106	106	105	87	
MEANS † 18 DAYS				103	100	95	84	72	63	62	68	67	69	72	73	77	76	82	76	80	82	89	91	101	108	106	106	83	
MEANS ‡ 13 DAYS				99	96	91	75	67	60	62	68	67	68	71	72	76	75	82	84	80	82	89	89	97	104	103	99	82	

DESIGNATIONS AND REMARKS:

* = ALL COMPLETE DAYS † = ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡ = SELECTED DAYS

( ) = INTERPOLATED [ ] = APPROXIMATE ⌈ ⌋ = DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER ≷ ≶ = DISTURBED BY BAD WEATHER

N = VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z = INDETERMINATE IN MAGNITUDE AND SIGN Z+ = INDETERMINATE POSITIVE VALUE Z- = INDETERMINATE NEGATIVE VALU

TABLE 526

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		m/h		m/h		m/h		m/h					
1	741.9	19.5	41	27.0	9.5		9.5	SSE	5	ENE	8	ENE	3	SE	4	Ci; CiSt; Cu	7- 8	Ci; CiSt; Cu	6- 3	
2	738.8	23.7	34	30.1	11.4		11.4	ESE	2	ENE	13	ESE	2	SSW	2	CiSt; ASt; Cu	3- 6	Ci; Cu	3- 6	Lightning in N in evening
3	734.5	23.1	45	28.7	14.5	T	4.5	SSE	2	SE	7	SE	6	W	4	CiSt; ACu; StCu	7-10	StCu; CuNb	6- 8	Thunderstorm in early am
4	736.4	19.5	60	24.6	11.4		6.8	NW	1	WNW	6	WSW	12	SW	3	Cu; StCu; Nb	7-10	Cu; StCu	6- 3	
5	736.9	19.7	61	22.1	9.8		7.7	SW	2	S	4	SW	12	WSW	5	Cu; StCu; CuNb	7-10	StCu; CuNb; Nb	3-10	Light rain in evening
6	735.0	14.9	62	19.0	10.3	0.06	9.5	WSW	8	SSW	8	SW	16	WSW	1	ASt; Cu; CuNb; Nb	6-10	Cu; StCu	10- 6	Light rain in am
7	738.6	17.1	62	20.7	8.5		5.6	W	1	W	10	SSW	12	S	2	StCu; Nb	7-10	StCu; Nb	10- 3	Light rain in late am
8	745.2	13.2	47	21.2	4.0	0.02	12.2	S	2	ESE	11	SE	8	SSE	6	Cu; FrCu	1- 3		0	
9	745.0	20.0	31	27.8	6.5		12.0	S	4	E	8	E	7	SE	4		0	CiSt; Ci	1- 8	Fire in NW
10	740.0	25.3	18	33.4	9.3		12.3	S	2	NE	8	SE	4	S	7	Ci; CiSt	1- 3	Ci; CiSt; FrCu	1- 3	
11	735.1	25.6	34	27.8	11.0		12.2	SSW	4	S	8	S	15	S	9		0		0	
12	740.1	15.2	42	22.9	10.0		12.2	SSE	6	ESE	17	ESE	11	ESE	6		0		0	
13	740.1	16.7	36	25.4	8.5		10.8	ESE	13	E	15	E	12	ESE	10	ASt; Cu; StCu	1- 3	Cu; StCu; Nb	4- 8	
14	738.8	18.2	50	25.0	14.0		8.6	NE	11	E	11	ESE	13	ESE	8	ASt; ACu; StCu; Nb	7- 8	Cu; StCu; Nb	8- 3	Clear at night
15	741.3	19.2	42	26.9	11.3		11.7	SE	7	ESE	12	SE	11	SSE	5	CiSt; ACu; ASt	1- 3	ASt; Cu	1- 3	Lightning in N in evening
16	743.0	20.0	45	28.7	12.7		10.9	SE	12	ESE	13	ESE	7	SSE	4	CiSt; Cu	1- 3	Cu	3- 6	Fires nearby in W
17	743.5	21.9	40	30.4	12.1		12.3	SE	2	E	5	SSE	3	S	6	Ci	1- 3	Ci; Cu	3- 6	Fires nearby in W
18	743.3	25.0	22	31.3	11.3		9.5	S	2	NE	8	NE	2	SSE	5	Ci; CiSt	6-10	Ci; CiSt	10	
19	741.3	27.8	21	33.0	13.1		8.2	SSE	1	NNE	11	N	5	..	0	CiSt; ACu; ASt	4- 6	Cu; StCu; Nb	7- 8	Thunderstorm in pm; cleared in evening
20	741.3	23.3	50	32.7	9.3	T	12.1	ESE	1	ESE	1	SW	6	S	7	StCu; Cu; CiSt	10- 3	CiSt; Cu	1- 3	Fire in N
21	740.0	22.2	48	29.9	10.0		11.8	S	1	SSW	3	SW	7	S	4	StCu; Cu	10- 3	CiSt; Cu	3- 6	Fire in N
22	738.6	19.9	51	23.4	10.0		10.2	..	0	SW	7	SSW	11	SSW	5	Ci; CiSt; StCu	7-10	Ci; StCu	7- 8	
23	741.2	16.1	49	21.2	8.8		6.1	SSW	1	S	5	S	3	S	3	StCu	10- 6	StCu	6- 1	Fire in SW; clear at night
24	740.8	16.8	46	22.8	5.2		8.8	S	1	S	3	SW	10	SSW	2	CiSt; CiCu; Cu	4- 6	Cu; StCu	8- 3	
25	742.5	18.9	56	23.7	5.5		9.1	SW	2	S	5	SSW	9	SSW	2	Cu	3- 8	ACu; Cu	8- 3	Clear in evening
26	741.5	18.9	49	25.0	6.1		12.3	SSW	2	S	4	SW	5	SSW	3	ASt; Cu; StCu	3- 6	Cu; StCu	4- 6	Clear in evening
27	738.0	18.0	63	21.2	9.1		2.6	SW	1	SW	6	WSW	11	W	1	StCu; CuNb; Nb	7-10	StCu; Nb	7-10	Rain in am and pm
28	743.1	15.9	41	22.6	10.5	0.06	12.5	SSW	3	SSE	12	SSE	8	SSE	8	FrCu	1- 3	FrCu	1- 3	Clear in evening
29	746.9	18.5	34	27.3	6.7		12.1	SSE	3	ENE	12	E	6	SSE	5	Ci; CiSt; ACu; StCu	1- 3	Ci; CiSt	3- 6	
30	744.3	25.5	15	32.8	10.0		12.6	S	1	NE	8	NE	3	S	4	CiSt	1- 3		0	Fire in W in evening
31																				
SUM						0.14														
MEAN	740.6	20.0	46	26.3	9.7		9.9		3.4		8.3		8.0		4.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.65 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 527

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	166	216	274	297	290	277	279	294	279	266	241	212	194	184	180	179	180	179	182	185	207	228	223	215	226	0
2	✓	✓	✓	246	290	315	313	290	280	272	246	230	198	180	175	164	162	⌈162	131	159⌋	154	153	153	128	154	195	230	208	0
3				274	295	303	315	343	≷197	159≶	318	302	267	198	185	≷131	66	136≶	131	138	159	148	149	153	159	—	—		1
4				—	—	—	—	—	—	—	—	164	159	159	161	148	148	148	143	144	138	138	144	148	144	148	⌈146⌋		0
5	✓	✓	✓	⌈115	141	133	128	115	151	200	208⌋	167	164	161	148	149	146	149	148	149	153	153	159	162	159	162	175	154	0
6	✓			177	166	162	146	146	149	≷130≶	161	≷131≶	146	146	146	≷138≶	(148)	136	134	120	138	162	162	161	179	177	164	151	1
7	✓	✓		164	166	179	180	180	184	175	146	151	151	159	161	161	159	159	151	156	157	149	148	162	174	171	180	163	1
8	✓	✓	✓	195	197	192	175	157	180	215	207	179	148	126	113	100	95	97	100	100	103	108	112	143	131	131	130	143	0
9	✓	✓	✓	130	146	180	213	248	280	323	312	266	261	223	197	180	175	169	164	162	159	161	164	182	159	157	148	198	0
10	✓	✓	✓	153	182	207	248	290	317	354	349	312	276	212	195	175	166	162	157	151	146	146	139	133	125	118	131	202	0
11				139	148	161	164	175	177	179	180	177	161	149	148	148	144	136	136	134	136	136	128	113	113	134	134		0
12	✓	✓	✓	133	133	148	167	184	182	177	175	166	162	141	134	131	126	115	108	108	112	112	115	141	149	182	213	146	0
13	✓	✓		215	213	212	208	213	216	225	230	231	225	218	202	185	(167)	164	≷135≶	131	136	148	148	179	190	198	213	192	1
14	✓	✓		230	231	182	180	≷169≶	182	195	198	184	164	146	136	136	146	126	113	126	131	149	171	194	207	228	248	174	1
15	✓	✓	✓	262	264	264	262	249	246	248	248	231	218	192	153	133	133	133	133	134	131	136	148	166	175	180	184	193	0
16	✓	✓	✓	192	197	197	198	212	212	225	230	200	208	202	197	182	179	175	162	148	144	134	136	146	146	138	149	180	0
17	✓	✓	✓	185	213	235	241	230	233	243	264	289	294	261	233	210	⌈182	136	116	98	100	84	87	84	100	131	133⌋	183	0
18	✓	✓	✓	⌈126	121	123	134	177⌋	244	331	262	215	194	179	164	164	164	159	153	146	144	148	148	⌈116	115	116	118⌋	165	0
19	✓			⌈134⌋	180	230	267	295	328	371	341	230	180	153	144	144	≷82	41	49	103≶	141	153	144	177	172	230	235	188	2
20				218	210	221	218	⌈180	115	180⌋	187	187	197	180	174	164	(159)	148	136	144	128	138	144	151	148	146	146		0
21	✓			⌈131	130	120	116	116	118	120	130⌋	149	161	162	159	149	148	133	115	112	113	128	131	120	118	120	128	130	0
22	✓	✓	✓	120	131	133	159	180	197	(198)	151	136	136	139	143	146	146	148	144	134	130	128	126	146	149	153	162	147	0
23				164	174	—	⌈179	177	126⌋	—	—	162	161	153	153	154	154	138	141	144	133	138	⌈103	120⌋	161	169	171		0
24				161	161	⌈184	202⌋	207	210	208	192	175	164	159	164	164	161	153	161	157	151	148	153	164	180	207	226		0
25	✓	✓	✓	235	230	248	249	272	297	262	161	149	131	131	134	131	128	120	120	123	128	130	136	149	162	164	164	173	0
26				182	194	195	205	225	226	246	198	[167	164	164	154	161	156	148	136	121	121	120	103	131⌋	—	—	—		0
27				—	—	—	—	—	—	—	—	[164	164	164	164	164	164	164	161	161	151	144	139	164	180	175	182⌋		1
28				⌈194	194	197	226	235	225	220	187⌋	143	131	120	⌈105	98	87	77	67	79	82	93	92	115	120	123	116⌋		0
29	✓	✓		⌈116	118	120	164⌋	213	261	277	262	233	213	195	185	164	151	146	146	133	133	136	143	⌈130	105	100	102⌋	164	0
30	✓	✓		⌈110	121	139⌋	179	235	280	348	300	262	225	197	185	177	175	166	164	164	164	162	⌈157	148	118	115	113⌋	184	0
31																													
MEANS * 21 DAYS				168	180	190	201	212	229	246	232	209	196	179	167	158	151	142	134	135	138	141	143	151	153	161	168	174	
MEANS † 18 DAYS				172	184	193	205	217	234	253	236	216	202	184	170	160	155	148	140	139	139	140	143	151	153	159	167	178	
MEANS ‡ 13 DAYS				174	189	204	214	223	238	256	239	217	204	184	169	158	153	147	140	138	137	137	139	146	150	158	166	178	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER

TABLE 528

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

NOVEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓	✓	✓	144	174	239	284	277	267	274	300	300	278	253	214	188	178	165	161	170	170	173	159	170	189	185	188	212	0
2	✓	✓	✓	219	240	266	268	273	274	267	252	227	201	185	178	174	169	[156	117	147]	134	124	135	97	120	163	190	191	0
3				223	252	264	289	320	}313	306{	324	314	277	194	186	}185	178{	139	120	120	144	145	138	138	145	135	130		1
4				[101	91	91	110	94	60]	138	174	161	157	148	134	148	151	142	137	135	125	125	122	127	127	111	77		0
5	✓	✓	✓	[90	120	104	90	91	149	213	199]	148	145	148	142	147	145	148	139	137	135	132	134	135	124	121	134	136	0
6	✓			147	135	130	120	115	120	}134{	144	}135{	147	148	145	}151{	149	(148)	135	120	121	132	104	105	121	132	125	132	1
7	✓	✓		118	111	135	144	135	138	157	142	145	147	161	160	157	151	149	148	139	137	130	120	114	103	110	125	136	1
8	✓	✓	✓	134	137	124	105	100	134	199	203	192	153	114	95	91	81	78	88	91	91	90	91	114	110	105	104	118	0
9	✓	✓	✓	104	120	151	177	209	253	314	324	297	278	227	215	188	169	163	148	149	148	145	134	147	134	125	120	185	0
10	✓	✓	✓	132	138	163	209	247	293	355	372	303	261	214	201	189	174	157	132	148	138	135	134	108	104	93	95	187	0
11				110	124	131	132	144	145	161	164	177	—	—	—	—	—	—	—	—	—	—	—	—	108	108	117		0
12	✓	✓	✓	105	105	115	132	165	170	174	186	186	174	157	142	134	120	108	95	103	104	104	104	121	127	174	196	138	0
13	✓	✓		202	203	193	196	203	215	225	234	247	235	230	214	201	(189)	174	}163{	145	134	137	139	164	184	197	202	193	1
14	✓	✓		217	215	}174	160	170{	176	196	202	182	151	144	137	145	151	120	107	115	132	151	174	186	197	211	215	168	1
15	✓	✓	✓	238	251	249	252	269	271	276	263	254	244	205	169	148	135	128	120	132	128	130	132	138	144	163	178	192	0
16	✓	✓	✓	186	189	192	197	213	214	223	239	228	222	217	215	216	190	176	161	156	149	137	132	115	112	104	107	179	0
17	✓	✓	✓	147	188	192	197	199	210	237	273	305	302	266	242	210	[174	121	103	87	87	77	81	77	91	108	107]	170	0
18	✓	✓	✓	[97	94	98	108	148]	225	338	279	211	199	185	165	161	163	148	138	135	124	121	135	[104	94	91	97]	152	0
19	✓			[120]	168	218	256	295	325	356	348	244	203	166	161	163	}164{	151	124	134}	134	145	134	145	144	214	219	197	2
20				201	164	—	—	—	—	[242]	161	174	178	188	174	165	155	(137)	122	131	120	124	130	131	128	128	112		0
21	✓			[103	91	77	84	88	81	91	115]	135	148	145	135	137	131	115	95	95	95	104	108	93	91	60	75	104	0
22	✓	✓	✓	88	90	78	108	147	189	184	135	132	124	125	128	137	134	130	125	121	110	108	115	120	121	95	108	123	0
23				115	105	[165	172	224	157	198]	(134)	137	137	134	142	138	135	122	124	131	117	117	[87	81]	122	134	117		0
24				108	110	—	—	—	—	—	—	159	159	159	161	159	148	148	138	138	134	131	115	114	137	153	172		0
25	✓	✓	✓	176	180	199	210	233	252	206	135	144	120	114	130	121	118	115	118	118	115	112	110	104	90	104	103	143	0
26				115	120	120	148	155	160	197	161	[152	148	144	151	151	151	134	125	105	105	100	87	81	94	81	94]		0
27				[91	91	91	104	103	108	127]	148	145	148	156	160	165	163	153	149	144	130	114	112	120	120	120	148]		1
28				—	—	—	—	—	—	—	—	134	130	114	[93	81	77	62	51	60	66	62	72	87	94	91	84]		0
29	✓	✓		[74	77	81	120]	170	228	267	266	238	223	217	215	215	205	174	145	127	121	122	120	[93	75	74	75]	155	0
30	✓	✓		[78	91	115]	138	188	261	336	303	252	218	192	182	186	172	164	160	164	152	149	[120	107	91	78	74]	165	0
31																													
MEANS * 21 DAYS				139	148	157	169	187	212	239	234	215	199	182	171	165	155	142	130	130	127	127	125	122	122	129	135	161	
MEANS † 18 DAYS				142	151	159	172	191	218	247	239	222	204	186	175	167	157	143	132	132	128	126	126	123	123	128	134	164	
MEANS ‡ 13 DAYS				143	156	167	180	198	223	251	243	225	208	185	172	162	150	138	127	130	126	122	123	119	120	125	133	164	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE [ ]=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION }{=DISTURBED BY BAD WEATHER

POTENTIAL-GRADIENT AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN VOLTS PER METER

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1	✓			155	158	162	142	110	95	53	64	74	78	72	68	69	67	63	63	48	63	92	188	128	74	76	72	93	0
2	✓			98	97	82	87	81	126	234	108	97	90	84	97	100	93	78	83	84	97	97	107	106	108	101	106	102	0
3	✓	✓	✓	116	112	102	97	88	78	72	69	53	57	59	59	58	58	50	66	64	65	78	89	97	108	113	97	80	0
4	✓			101	87	80	67	64	59	54	48	(44)	48	52	53	59	63	63	69	80	82	89	97	114	91	113	125	75	0
5	✓			108	107	121	N115	N 86	102	108	96	84	78	71	73	87	87	83	87	78	92	89	95	99	97	89	83	92	1
6	✓			86	87	87	91	84	64	74	87	86	79	83	85	84	89	89	88	92	96	101	122	121	123	127	136	94	0
7				148	136	—	—	—	—	82	74	64	68	82	83	91	93	86	87	87	92	115	145	121	165	174	171		0
8	✓	✓		159	134	97	82	81	76	69	68	68	63	64	73	78	72	74	73	74	95	97	97	90	105	179	199	94	0
9	✓	✓		203	134	67	52	50	44	43	44	58	60	62	61	64	58	61	59	58	59	64	62	68	62	63	66	68	0
10			✓	67	65	60	57	53	47	49	55	69	62	72	65	73	59	59	68	72	78	97	N 16	64	Z	N 43	54		1
11	✓	✓		63	N 30	40	48	50	39	51	82	77	76	69	68	70	67	71	68	78	91	92	89	106	89	112	111	72	1
12				102	102	106	Z	99	89	53	60	50	N 58	N 58	78	75	92	87	86	94	89	102	108	115	121	130	131		1
13	✓	✓	✓	129	125	124	125	126	117	92	68	68	70	71	71	68	64	67	68	65	72	87	116	136	152	162	165	100	0
14	✓	✓		143	87	78	73	73	72	61	57	53	54	54	50	54	58	58	63	62	67	68	72	111	148	136	147	79	0
15	✓			141	146	129	113	175	121	82	68	59	59	63	65	73	67	73	82	87	79	89	103	121	131	143	145	101	0
16	✓			160	165	168	181	149	127	117	103	86	90	76	81	90	84	92	91	92	92	93	90	83	88	77	99	107	0
17	✓			94	96	97	67	68	65	N 66	N 73	N 65	58	65	74	73	87	83	92	88	97	125	139	145	131	98	85	89	1
18	✓			92	97	90	91	82	72	58	54	49	54	54	64	65	62	64	67	67	82	88	161	165	126	121	110	85	0
19	✓	✓	✓	98	96	82	74	57	44	40	39	34	40	43	47	53	54	52	53	50	59	63	83	72	77	51	48	59	0
20	✓			46	48	53	43	40	62	54	62	63	63	63	68	65	77	81	87	97	106	100	102	106	136	126	111	77	0
21	✓	✓	✓	107	112	106	105	102	90	82	77	68	67	68	68	76	80	83	89	96	98	102	108	116	121	112	115	94	0
22				88	87	86	78	78	79	76	85	74	75	66	57	55	Z	N 77	N 57	N 57	-97	0	Z	N 55	Z	—	—		1
23				—	—	—	—	—	—	—	—	79	83	78	79	88	83	97	101	94	99	105	103	101	97	100	101		—
24	✓	✓	✓	111	98	72	66	71	50	49	53	68	69	64	54	69	68	74	74	82	68	92	83	98	107	101	105	77	0
25	✓	✓	✓	68	73	78	81	77	74	81	78	79	79	89	86	91	102	112	101	103	104	103	108	112	114	111	112	92	0
26	✓	✓		120	131	137	136	127	98	74	67	63	64	65	81	74	78	82	91	93	92	92	103	96	100	145	172	99	0
27	✓	✓		207	208	191	126	87	89	87	80	77	81	83	94	92	102	106	102	106	97	111	160	132	122	132	155	118	0
28				132	106	107	73	58	43	53	74	73	79	81	78	81	77	72	71	Z	Z	Z	Z	Z	99	N 127	Z		1
29				150	149	154	181	175	164	150	131	113	108	96	91	83	93	93	88	107	111	113	145	123	138	—	—		0
30				—	—	—	—	—	—	—	—	94	78	83	92	98	112	105	104	103	106	97	101	100	97	91	89		0
31	✓			86	77	83	76	62	65	63	72	79	78	62	72	80	88	92	90	97	108	102	112	116	107	108	107	87	0
MEANS * 23 DAYS				117	109	101	93	87	80	77	70	67	68	67	70	74	75	77	79	80	85	92	108	110	109	113	116	88	
MEANS † 12 DAYS				127	112	98	89	82	73	67	65	64	65	66	68	71	72	75	76	78	81	87	98	103	109	118	124	86	
MEANS ‡ 7 DAYS				99	97	90	86	82	71	66	61	61	63	65	64	69	73	76	75	78	77	86	92	97	101	97	96	80	

DESIGNATIONS AND REMARKS:

*=ALL COMPLETE DAYS †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌜ ⌟=DISTURBED CONSPICUOUSLY BY EFFECTS OTHER THAN BAD WEATHER } {=DISTURBED BY BAD WEATHER

N=VALUES WHICH, THOUGH POSITIVE, INCLUDE SOME NEGATIVE POTENTIAL-GRADIENT Z=INDETERMINATE IN MAGNITUDE AND SIGN Z+=INDETERMINATE POSITIVE VALUE Z−=INDETERMINATE NEGATIVE VALU

TABLE 530

METEOROLOGICAL SUMMARY FOR WATHEROO MAGNETIC OBSERVATORY

ALTITUDE OF STATION 244 METERS, LATITUDE 30° 19′ S, LONGITUDE 115° 52′ E.

(TIMES GIVEN ARE 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1934

DAY	AT 09 O'CLOCK			DAILY				WIND								CLOUDS				NOTES
	BAR. PRESS.	AIR-TEMP.	REL. HUM.	MAX. TEMP.	MIN. TEMP.	RAIN-FALL	SUN-SHINE	02h–03h		08h–09h		14h–15h		20h–21h		FORENOON		AFTERNOON		
								DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	DIR.	VEL.	TYPE	AM'T	TYPE	AM'T	
	mm	°C	per cent	°C	°C	in	hr		mi/h		mi/h		mi/h		mi/h					
1	742.1	28.3	13	36.2	9.8		12.6	S	1	N	9	NW	3	S	3	CiSt	1- 3		0	Heavy smoke clouds in pm
2	739.4	26.7	47	31.1	10.3		12.4	SE	2	SSE	3	SSW	8	S	5	CiCu; ACu; ASt; Cu	1- 3	Ci; CiCu; ASt; Cu	1- 8	Probably fog early; cloudless at night
3	738.9	20.7	40	31.8	14.7		11.2	ESE	12	E	11	E	3	SSE	3	Ci; CiSt; ACu; ASt	1- 8	Ci; CiSt; ACu; ASt	8- 1	Smoke haze in evening; cloudless at night
4	734.5	23.9	34	30.8	13.0		12.5	SSE	2	ESE	2	WSW	11	SW	7	CiCu; Cu	1- 3	Cu	1- 3	Overcast in evening with Cu, FrCu
5	739.7	18.1	61	22.4	13.3	0.04	9.9	WSW	7	SW	8	SW	11	SSW	2	Cu; StCu; CuNb	7-10	Cu; StCu	10- 1	Light rain 3h to 4h; cloudless at night
6	743.3	18.8	50	25.7	8.3		12.7	SW	1	SSE	6	S	3	S	7	Cu; FrCu; StCu	3- 6	Cu; FrCu	3- 4	Dew early; clear in evening
7	744.1	22.2	38	31.8	10.8		12.7	SSE	5	ESE	10	SE	5	S	8		0		0	
8	743.8	27.8	30	37.1	16.0		12.7	SE	6	E	7	E	6	SE	3	Ci; CiSt; ASt	7- 8	Ci; CiSt; ASt	7- 8	
9	743.5	31.6	18	38.4	17.5		11.8	ESE	4	NE	9	E	3	E	2	Ci; CiCu; CiSt; ACu	3- 6	Ci; CiCu; CiSt; ACu	4- 6	
10	741.0	32.8	10	39.7	17.3		10.7	SE	1	NNE	11	NNE	5	S	1	Ci; CiSt; CiCu	1- 3	Ci; CiSt; CiCu; ASt	4- 8	Fire in W in pm
11	737.1	28.2	37	33.8	13.8		9.0	..	0	W	4	W	7	SW	3	Ci; CiSt; CiCu; ACu	4- 6	CiSt; ASt	7-10	Smoke in am
12	740.2	19.4	69	25.7	17.4		5.3	SW	2	SW	4	S	7	S	6	StCu; Nb	10	Ci; CiSt; StCu	10- 4	Light rain in E in am
13	742.8	19.9	50	27.4	10.7		10.6	S	3	ESE	14	ESE	5	S	7	Ci; CiSt; ASt	7-10	Ci; CiSt; ASt	7-10	
14	742.7	20.3	41	26.8	14.0		4.1	ESE	15	E	14	ESE	11	S	8	Ci; ASt; StCu	7-10	Ci; ACu; ASt	10- 3	
15	739.1	22.5	40	30.5	13.8		12.0	S	4	SE	7	S	8	SSW	9	Ci; ACu; ASt	1- 3	Ci; ASt; StCu	4- 6	
16	738.9	20.6	52	23.3	14.1		7.9	SSW	9	SSW	7	SSW	12	SSW	4	Cu; FrCu; StCu	6-10	Cu; StCu; Nb	3-10	Light rain in late pm
17	741.8	15.1	83	22.5	12.4	0.05	8.1	SW	2	SSE	9	SSW	6	S	7	CuNb; Nb	7-10	Cu; CuNb	6- 1	Light showers in early am
18	743.6	19.7	33	28.1	7.0		12.1	S	2	ENE	7	ESE	4	S	7	Ci	1- 3	Ci; CiSt	6- 3	
19	740.9	26.3	20	36.3	11.0		12.4	S	2	E	8	NNE	6	W	3	Ci	3- 6	Ci; Cu	1- 3	Fires in N and SW
20	738.2	24.1	47	31.1	13.0		12.2	N	2	NW	9	W	12	W	2	Ci; CiSt	1- 3	Ci; CiSt	1- 6	Clear in evening
21	739.2	21.8	60	28.4	16.5		10.0	WSW	4	WSW	5	SSW	9	SSW	4	CiSt; ACu; StCu	10- 3	Ci; CiSt; ACu; StCu	3-10	
22	737.6	22.8	61	28.9	14.0		5.3	SSE	2	SSE	4	WSW	3	NW	4	CiSt; ASt; StCu	10	StCu; CuNb; Nb	10	Light rain in pm and evening
23	736.5	20.4	56	26.1	14.5	0.01	11.0	W	2	SW	4	WSW	10	SSW	3	Ci; CiSt; ASt; StCu	10- 7	Ci; CiSt; ASt; StCu	6- 3	Clear at night
24	738.1	20.1	61	22.6	10.6		2.3	SW	1	N	2	SW	8	SSW	2	Ci; ACu; StCu	7-10	ACu; Cu; StCu	4- 6	
25	741.3	20.2	50	29.4	8.7		12.8	S	2	SE	4	S	4	S	7	ASt; StCu	1- 3	Cu	1- 3	Cloudless at night
26	241.6	23.8	42	34.0	12.2		12.8	S	3	ESE	8	SE	3	S	7	Ci; CiSt	1- 3	Ci	1- 3	
27	738.4	28.6	30	38.2	15.4		9.4	SSE	4	E	8	N	2	S	3	Ci; ASt	1- 3	ASt; StCu; Nb	4-10	Few drops rain 19h8, clearing later
28	737.0	31.7	19	38.1	17.2	T	9.0	..	0	NNE	14	NNE	6	SSE	3	Ci; CiSt; Cu	7-10	Cu; StCu; Nb	7-10	Few drops rain in late pm; lightning in S
29	735.2	20.2	63	24.3	17.0	T	8.5	SSW	7	SSW	12	SSW	18	SSW	5	Cu; CuNb; Nb	10- 1	StCu	1- 6	
30	737.8	17.9	47	22.2	9.0		7.3	..	0	SSW	6	SSW	15	SSW	1	CiSt; Cu; CuNb	10- 6	Ci; CiCu; Cu; CuNb	6- 8	
31	737.7	19.2	43	22.8	9.4		7.5	SSW	1	S	6	S	12	S	4	Cu; StCu	4- 7	StCu; CuNb	3- 6	
SUM						0.10														
MEAN	739.9	23.0	43	29.9	13.0		10.0		3.5		7.5		7.3		4.5					

REMARKS: BAROMETRIC PRESSURE IS BY MERCURY BAROMETER CORRECTED TO STANDARD GRAVITY AND TEMPERATURE AND FOR INDEX-ERROR. TEMPERATURES FROM STANDARD METEOROLOGICAL SHELTER WITH THERMOMETERS 1.83 METERS ABOVE GROUND-LEVEL. RELATIVE HUMIDITY BY SLING-PSYCHROMETER. ABOUT 75 PER CENT OF ALL MAXIMUM TEMPERATURES OCCUR BETWEEN 13 AND 16 O'CLOCK, AND ABOUT 75 PER CENT OF ALL MINIMUM TEMPERATURES BETWEEN 04 AND 07 O'CLOCK. RAINFALL BY STANDARD 8-INCH GAGE OF U.S. WEATHER BUREAU, MEASURED AT 09 O'CLOCK DAILY AND RECORDED UNDER DATE OF MEASUREMENT; LETTER T INDICATES ONLY TRACE OF MOISTURE IN GAGE. SUNSHINE BY JORDAN TWIN-CYLINDER RECORDER OF NEGRETTI AND ZAMBRA. WIND RECORDED WITH DINE'S PRESSURE-TUBE ANEMOGRAPH NO. 450 OF J.P. FRIEZ; TABULATED VALUES OF BOTH DIRECTION AND VELOCITY ARE AVERAGES FOR THE HOUR AS INDICATED; V INDICATES WIND-DIRECTION TOO VARIABLE TO AVERAGE. CLOUD-AMOUNT IS ON SCALE OF 0 FOR CLEAR SKY TO 10 FOR OVERCAST.

TABLE 531

POSITIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED :20° EAST MERIDIAN MEAN TIME)

DECEMBER 1934

DAY	*	†	‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1				⌈117	124	127	142	160	172⌋	296	264	219	210	165	170	—	—	—	—	—	⌈114	80	45	130⌋	194	189	165		0
2				152	167	205	205	200	⌈170⌋	—	—	182	144	135	129	134	134	135	135	137	⌈115	134⌋	144	145	147	145	147		0
3	✓	✓	✓	[170]	172	175	165	195	204	214	215	215	215	214	202	194	184	182	174	167	164	149	149	159	154	155	172	182	0
4				189	234	252	269	272	269	261	287	316	314	282	266	239	(217)	207	182	⌈137⌋	162	165	—	—	—	—	—		0
5				—	—	—	—	—	—	—	—	—	139	139	139	140	142	139	139	140	150	150	149	165	169	184	204		1
6				214	222	232	215	219	237	227	172	165	155	152	155	152	134	107	119	129	120	134	135	160	160	154	137		0
7	✓			132	130	117	129	135	149	177	220	244	232	200	177	167	165	152	150	150	154	⌈149	97	119	114	105	100⌋	153	0
8	✓	✓		⌈100	132⌋	184	205	207	217	232	247	249	245	237	220	182	172	167	155	152	150	145	152	184	⌈172	102	84⌋	179	0
9	✓	✓		⌈ 87	132⌋	250	312	332	367	384	346	239	212	197	179	167	164	154	152	149	139	152	167	185	205	217	230	213	0
10	✓			237	244	250	267	279	282	284	234	185	182	182	170	164	150	149	144	144	≷142	99	135	195	129≶	219	232	196	1
11	✓	✓		220	217	252	244	245	252	222	129	119	119	127	129	124	(122)	125	⌈114	112	120⌋	135	134	145	134	130	129	158	1
12				—	—	—	—	—	—	—	—	144	142	140	149	137	135	145	147	145	134	125	134	129	122	129	130		1
13	✓	✓		137	140	137	134	129	127	157	179	174	174	169	169	160	154	152	152	159	164	⌈135	112	110	112	100	99⌋	143	0
14	✓	✓		⌈117⌋	184	184	182	185	187	194	199	200	202	214	214	215	210	205	202	197	195	187	187	⌈147	95	120	115⌋	181	0
15				⌈117	117	102⌋	—	—	—	—	234	249	244	237	222	199	184	182	⌈139	134	142	132	132	150	134⌋	—	—		0
16				—	—	—	—	—	—	—	—	150	150	150	147	149	144	134	135	135	129	122	122	137	145	137	150		0
17				152	160	170	175	≷197≶	184	172	160	149	150	155	⌈129	114	102	104	112	127	104	97	77	95	99	127⌋	147		1
18				147	139	135	134	139	167	229	264	264	247	200	180	175	(167)	169	165	152	150	152	⌈ 87	100	119	122	124⌋		0
19	✓	✓	✓	⌈119	120	132	154	212⌋	284	331	352	362	327	269	215	184	182	167	149	119	120	130	⌈ 89	132	145⌋	172	184	194	0
20				199	200	234	—	—	—	—	—	184	169	167	167	165	152	137	122	122	120	120	119	129	135	142	140		0
21	✓	✓	✓	139	144	140	139	135	132	132	135	139	149	150	152	152	150	140	137	134	132	132	122	127	132	134	134	138	0
22				≷129≶	134	134	124	127	120	147	149	169	185	195	199	199	≷164≶	180	152	≷154	134	120	105	130	137	152	147≶		1
23				137	144	137	127	127	134	142	147	149	147	147	147	149	150	149	149	150	149	145	137	150	149	167	180		—
24	✓	✓	✓	184	202	235	234	224	262	269	234	200	182	180	175	167	(164)	152	150	152	152	152	162	167	177	180	192	190	0
25	✓	✓	✓	229	222	219	217	205	199	197	150	155	184	184	167	155	157	⌈134	129⌋	145	139	142	137	147	144	149	137	168	0
26	✓	✓		134	127	129	129	130	129	170	197	222	232	215	185	170	167	134	117	110	130	139	120	169	167	⌈130	85⌋	152	0
27	✓	✓		⌈ 84	85	94	159⌋	210	214	232	250	250	244	229	210	185	182	167	165	150	152	162	⌈ 85	134	152	149	137⌋	170	0
28	✓			⌈149	154	184⌋	217	242	319	317	214	169	159	152	149	149	150	139	≷120	100	45	50	150	170	184	110	117≶	163	1
29				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	⌈ 90	110	110	115⌋	127	124	129	137		0
30				149	150	155	155	149	167	190	152	137	132	130	134	134	135	134	132	137	134	132	130	150	137	137	150		0
31				165	185	—	—	—	—	—	—	149	149	134	134	134	127	127	130	130	127	119	120	137	132	130	134		0
MEANS * 15 DAYS				149	160	179	194	204	222	234	220	208	204	195	181	169	165	155	147	143	140	137	133	153	148	145	143	172	
MEANS † 12 DAYS				143	156	178	191	201	214	228	219	210	207	199	185	171	167	157	150	146	146	147	135	150	149	145	142	172	
MEANS ‡ 7 DAYS				174	178	184	196	205	225	241	230	212	206	195	180	165	162	153	148	144	140	140	137	149	154	162	168	177	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷≶=DISTURBED BY BAD WEATHER

NEGATIVE CONDUCTIVITY AT WATHEROO MAGNETIC OBSERVATORY

EXPRESSED IN MILLIONTHS OF AN ELECTROSTATIC UNIT

(THE TABULAR VALUES ARE AVERAGES FOR SUCCESSIVE PERIODS OF ONE HOUR AS INDICATED 120° EAST MERIDIAN MEAN TIME)

DECEMBER 1934

DAY	* † ‡	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	MEAN	CHARACTER
1		⌈ 76	65	83	99	114	141⌋	250	266	231	205	186	188	—	—	—	—	—	⌈ 98	71	38	92⌋	154	160	145		0
2		136	154	157	157	181	—	—	—	—	168	130	127	123	123	127	130	133	127	⌈ 98	113⌋	127	124	123	[147]	121		0
3	✓ ✓ ✓	153	[161]	170	174	184	(203)	221	225	220	212	211	207	193	181	170	161	160	157	132	127	116	114	117	135	171	0
4		161	192	211	231	236	244	266	286	301	295	275	261	236	224	208	174	⌈ 142⌋	157	151	138	126	133	124	117		0
5		116	123	123	113	120	110	113	127	126	132	142	147	154	154	153	150	153	—	—	121	116	113	126	153		1
6		142	169	174	169	—	≷ 83 ≶	200	170	154	154	154	157	—	130	101	—	123	117	117	116	123	123	113	—		0
7	✓	(90	90)	84	98	110	(133	162)	229	250	235	195	182	170	161	162	150	165	162	⌈ 138	83	98	87	81	75⌋	141	0
8	✓ ✓	⌈ 83	108⌋	161	197	211	226	236	239	254	249	249	226	189	180	172	166	157	157	145	136	142	⌈ 141	75	65⌋	174	0
9	✓ ✓	⌈ 65	98⌋	235	284	312	350	376	346	236	213	200	192	184	186	(172	168)	157	142	154	157	154	172	184	201	206	0
10	✓ ✓	225	209	235	236	250	269	271	211	176	181	184	170	170	160	161	156	142	≷ 138	87	153	157	170 ≶	201	201	188	1
11	✓ ✓	200	209	211	225	233	240	221	123	114	117	126	117	126	124	(123)	⌈ 110	117	114⌋	119	123	113	96	110	102	146	1
12	✓	98	98	107	≷ 126 ≶	105	123	127	121	132	138	138	139	138	132	145	136	133	130	113	113	98	90	96	101		1
13	✓ ✓	105	116	108	101	102	111	153	186	170	178	177	184	172	164	161	157	160	168	⌈ 145	110	95	86	81	76⌋	136	0
14	✓ ✓	⌈ 108⌋	180	186	193	196	207	213	223	221	224	226	234	230	226	221	208	200	190	184	177	⌈ 117	71	98	93⌋	184	0
15		⌈ 87	92	142⌋	—	—	—	—	230	249	246	234	221	186	173	174	⌈ 141	130	138	132⌋	—	—	—	—	⌈ 80⌋		0
16		⌈ 66	68	66	63	61	70	83	110⌋	132	141	148	145	142	145	135	127	124	110	105	102	≷ 145 ≶	—	—	—		0
17		—	—	—	—	—	—	—	—	142	142	154	⌈ 119⌋	—	—	—	—	—	—	—	—	—	—	—	—		1
18		—	—	—	—	—	—	—	—	—	—	—	132	165	168	(162)	153	153	145	132	⌈ 71	78	98	98	98⌋		0
19	✓ ✓ ✓	⌈ 98	101	111	127	188⌋	284	334	357	368	325	270	219	196	174	165	144	124	123	126	⌈ 80	121	127⌋	157	172	187	0
20		199	197	213	246	246	—	—	170	195	189	186	186	173	160	142	119	119	114	116	110	110	102	113	116		0
21	✓ ✓ ✓	126	126	123	120	116	114	119	127	142	142	144	154	153	145	136	124	121	121	117	⌈ 104	95	83	96	87⌋	122	0
22		≷ 66 ≶	⌈ 101⌋	—	—	—	—	—	—	154	162	176	186	184	≷ 189 ≶	168	157	154	157	142	139	[135	133	127	162⌋		1
23		[130	117	107	114	127	124⌋	—	—	170	139	142	151	168	153	145	142	142	130	123	113	113	113	113	113		–
24	✓ ✓ ✓	113	139	176	180	184	231	249	226	185	169	158	162	160	(162)	154	144	138	141	132	130	116	114	121	126	159	0
25	✓ ✓ ✓	195	197	196	181	181	181	184	178	182	185	189	169	158	157	⌈ 116	124⌋	142	142	139	123	123	120	123	95	158	0
26	✓ ✓	98	83	95	98	98	111	166	197	236	239	228	192	181	169	136	113	108	126	132	113	145	148	⌈ 111	65⌋	141	0
27	✓ ✓	⌈ 53	51	63	127⌋	207	209	224	(246)	262	257	233	211	188	170	142	139	132	141	123	⌈ 76	99	123	98	78⌋	152	0
28	✓	⌈ 86	113	123⌋	211	246	313	295	213	169	158	156	154	157	153	142	121	≷ 132	83	48	151	139	145	107	139 ≶	156	1
29		—	—	—	—	—	—	—	—	—	⌈ 76	83	83	83	83	83	70	83	93	95	90	92	95⌋	—	—		0
30		—	—	—	—	—	—	—	—	138	127	127	(142	142	138	139)	130	127	123	117	108	104	108	108	104		0
31		120	124	117	124	168	168	173	148	129	130	130	130	138	132	127	120	114	113	102	101	98	105	102	99		0
MEANS * 15 DAYS		120	132	152	170	188	212	228	222	212	206	196	185	175	167	156	146	144	140	128	123	122	120	117	114	161	
MEANS † 12 DAYS		116	131	153	167	184	206	224	223	216	209	201	189	178	170	156	146	143	144	137	121	120	116	114	108	161	
MEANS ‡ 7 DAYS		145	150	160	167	181	211	234	235	215	203	193	184	169	162	151	143	139	137	130	119	118	117	128	131	163	

DESIGNATIONS AND REMARKS:

*=ALL DAYS COMPLETE IN BOTH POSITIVE AND NEGATIVE CONDUCTIVITIES †=ALL DAYS COMPLETE IN BOTH CONDUCTIVITIES AND IN POTENTIAL-GRADIENT ‡=SELECTED DAYS

( )=INTERPOLATED [ ]=APPROXIMATE ⌈ ⌋=APPEARS CONSPICUOUSLY DISTURBED BY POLLUTION ≷ ≶=DISTURBED BY BAD WEATHER